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P.T.O.

RATIONALIST ANNUAL

For the Year 1930

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* The Syllabus of Lectures for the Session 1929-1930 can be obtained on application to the Institute.

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HAS RELIGION MADE USEFUL CONTRIBUTIONS TO CIVILIZATION?*

By THE HON. BERTRAND RUSSELL

MY own view on religion is that of Lucretius. I regard it as a disease born of fear and as a source of untold misery to the human race. I cannot, however, deny that it has made *some* contributions to civilization. It helped in early days to fix the calendar, and it caused Egyptian priests to chronicle eclipses with such care that in time they became able to predict them. These two services I am prepared to acknowledge, but I do not know of any others.

The word "religion" is used nowadays in a very loose sense. Some people, under the influence of extreme Protestantism, employ the word to denote any serious personal convictions as to morals or the nature of the universe. This use of the word is quite unhistorical. Religion is primarily a social phenomenon. Churches may owe their origin to teachers with strong individual convictions, but these teachers have seldom had much influence upon the Churches that they founded, whereas Churches have had enormous influence upon the communities in which they flourished. To take the case that is of most interest to members of Western civilization: the teaching of Christ, as it appears in the Gospels, has had extraordinarily little to do with the ethics of Christians. The important thing about Christianity, from a social and historical point of view, is not Christ, but the Church, and if we are to judge of Christianity as a social force we must not go to the Gospels for our material. Christ taught that you should give your goods to the poor, that you should not fight, that you should not go to church, and that you should not punish adultery. Neither Catholics nor Protestants have shown any strong desire to follow His teaching in any of these respects. Some of the Franciscans,

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it is true, attempted to teach the doctrine of apostolic poverty, but the Pope condemned them, and their doctrine was declared heretical. Or, again, consider such a text as "Judge not that ye be not judged," and ask yourself what influence such a text has had upon the Inquisition and the Klu Klux Klan.

What is true of Christianity is equally true of Buddhism. The Buddha was amiable and enlightened; on his death-bed he laughed at his disciples for supposing that he was immortal. But the Buddhist priesthood—as it exists, for example, in Tibet—has been obscurantist, tyrannous, and cruel in the highest degree.

There is nothing accidental about this difference between a Church and its Founder. As soon as absolute truth is supposed to be contained in the sayings of a certain man, there is a body of experts to interpret his sayings, and these experts infallibly acquire power, since they hold the key to truth. Like any other privileged caste, they use their power for their own advantage. They are, however, in one respect worse than any other privileged caste, since it is their business to expound an unchanging truth, revealed once for all in utter perfection, so that they become necessarily opponents of all intellectual and moral progress. The Church opposed Galileo and Darwin; in our own day it opposes Freud. In the days of its greatest power it went further in its opposition to the intellectual life. Pope Gregory the Great wrote to a certain bishop a letter beginning: "A report has reached us which we cannot mention without a blush, that thou expoundest grammar to certain friends." The bishop was compelled by pontifical authority to desist from this wicked labour, and Latinity did not recover until the Renaissance. It is not only intellectually, but also morally, that religion is pernicious. I mean by this that it teaches ethical codes which are not conducive to human happiness. When, a few years ago, a plebiscite was taken in Germany as to whether the deposed royal houses should still be allowed to enjoy their private property, the Churches in Germany officially stated that it would be contrary to the teaching of Christianity to deprive them of it. The Churches, as every one knows, opposed the abolition of slavery as long as they dared, and with a few well-advertised exceptions they oppose at the present day every movement towards economic justice. The Pope has officially condemned Socialism.

CHRISTIANITY AND SEX

The worst feature of the Christian religion, however, is its attitude towards sex—an attitude so morbid and so unnatural that it can be understood only when taken in relation

to the sickness of the civilized world at the time when the Roman Empire was decaying. We sometimes hear talk to the effect that Christianity improved the status of women. This is one of the grossest perversions of history that it is possible to make. Women cannot enjoy a tolerable position in society where it is considered of the utmost importance that they should not infringe a very rigid moral code. Monks have always regarded Woman primarily as the temptress; they have thought of her mainly as the inspirer of impure lusts. The teaching of the Church has been, and still is, that virginity is best, but that for those who find this impossible marriage is permissible. "It is better to marry than to burn," as St. Paul brutally puts it. By making marriage indissoluble, and by stamping out all knowledge of the *ars amandi*, the Church did what it could to secure that the only form of sex which it permitted should involve very little pleasure and a great deal of pain. The opposition to birth control has, in fact, the same motive: if a woman has a child a year until she dies worn out, it is not to be supposed that she will derive much pleasure from her married life; therefore birth control must be discouraged.

The conception of Sin which is bound up with Christian ethics is one that does an extraordinary amount of harm, since it affords people an outlet for their sadism which they believe to be legitimate, and even noble. Take, for example, the question of the prevention of syphilis. It is known that, by precautions taken in advance, the danger of contracting this disease can be made negligible. Christians, however, object to the dissemination of knowledge of this fact, since they hold it good that sinners should be punished. They hold this so good that they are even willing that punishment should extend to the wives and children of sinners. There are in the world at the present moment many thousands of children suffering from congenital syphilis who would never have been born but for the desire of Christians to see sinners punished. I cannot understand how doctrines leading to this fiendish cruelty can be considered to have any good effect upon morals.

It is not only in regard to sexual behaviour, but also in regard to knowledge on sex subjects, that the attitude of Christians is dangerous to human welfare. Every person who has taken the trouble to study the question in an unbiased spirit knows that the artificial ignorance on sex subjects which orthodox Christians attempt to enforce upon the young is extremely dangerous to mental and physical health, and causes in those who pick up their knowledge by the way of "improper" talk, as most children do, an attitude that sex is in itself indecent and ridiculous. I do not think

there can be any defence for the view that knowledge is ever undesirable. I should not put barriers in the way of the acquisition of knowledge by anybody at any age. But in the particular case of sex knowledge there are much weightier arguments in its favour than in the case of most other knowledge. A person is much less likely to act wisely when he is ignorant than when he is instructed, and it is ridiculous to give young people a sense of sin because they have a natural curiosity about an important matter.

Every boy is interested in trains. Suppose we told him that an interest in trains is wicked; suppose we kept his eyes bandaged whenever he is in a train or on a railway station; suppose we never allowed the word "train" to be mentioned in his presence and preserved an impenetrable mystery as to the means by which he is transported from one place to another. The result would not be that he would cease to be interested in trains; on the contrary, he would become more interested than ever, but would have a morbid sense of sin, because this interest had been represented to him as improper. Every boy of active intelligence could by this means be rendered in a greater or less degree neurasthenic. This is precisely what is done in the matter of sex; but, as sex is more interesting than trains, the results are worse. Almost every adult in a Christian community is more or less diseased nervously as a result of the taboo on sex knowledge when he or she was young. And the sense of sin which is thus artificially implanted is one of the causes of cruelty, timidity, and stupidity in later life. There is no rational ground of any sort or kind for keeping a child ignorant of anything that he may wish to know, whether on sex or on any other matter. And we shall never get a sane population until this fact is recognized in early education, which is impossible so long as the Churches are able to control educational politics.

Leaving these comparatively detailed objections on one side, it is clear that the fundamental doctrines of Christianity demand a great deal of ethical perversion before they can be accepted. The world, we are told, was created by a God who is both good and omnipotent. Before He created the world He foresaw all the pain and misery that it would contain; He is therefore responsible for all of it. It is useless to argue that the pain in the world is due to sin. In the first place, this is not true; it is not sin that causes rivers to overflow their banks or volcanoes to erupt. But even if it were true, it would make no difference. If I were to beget a child knowing that the child was going to be a homicidal maniac, I should be responsible for his crimes. If God knew in advance the sins of which man would be guilty, He was

clearly responsible for all the consequences of those sins when He decided to create man. The usual Christian argument is that the suffering in the world is a purification for sin, and is therefore a good thing. This argument is, of course, only a rationalization of sadism; but in any case it is a very poor argument. I would invite any Christian to accompany me to the children's ward of a hospital, to watch the suffering that is there being endured, and then to persist in the assertion that those children are so morally abandoned as to deserve what they are suffering. In order to bring himself to say this, a man must destroy in himself all feelings of mercy and compassion. He must, in short, make himself as cruel as the God in whom he believes. No man who believes that all is for the best in this suffering world can keep his ethical values unimpaired, since he is always having to find excuses for pain and misery.

THE OBJECTIONS TO RELIGION

The objections to religion are of two sorts—intellectual and moral. The intellectual objection is that there is no reason to suppose any religion true; the moral objection is that religious precepts date from a time when men were more cruel than they are, and therefore tend to perpetuate inhumanities which the moral conscience of the age would otherwise outgrow.

To take the intellectual objection first: there is a certain tendency in our practical age to consider that it does not much matter whether religious teaching is true or not, since the important question is whether it is useful. One question cannot, however, well be decided without the other. If we believe the Christian religion, our notions of what is good will be different from what they will be if we do not believe it. Therefore to Christians the effects of Christianity may seem good, while to unbelievers they may seem bad. Moreover, the attitude that one ought to believe such and such a proposition, independently of the question whether there is evidence in its favour, is an attitude which produces hostility to evidence and causes us to close our minds to every fact that does not suit our prejudices. A certain kind of scientific candour is a very important quality, and it is one which can hardly exist in a man who imagines that there are things which it is his duty to believe. We cannot, therefore, really decide whether religion does good without investigating the question whether religion is true. To Christians, Mohammedans, and Jews the most fundamental question involved in the truth of religion is the existence of God. In the days when religion was still triumphant the word "God"

had a perfectly definite meaning; but as a result of the onslaughts of Rationalists the word has become paler and paler, until it is difficult to see what people mean when they assert that they believe in God. Let us take for purposes of argument Matthew Arnold's definition: "A power not ourselves that makes for righteousness." Perhaps we might make this even more vague, and ask ourselves whether we have any evidence of purpose in the universe apart from the purposes of living beings on the surface of this planet.

The usual argument of religious people on this subject is roughly as follows: "I and my friends are persons of amazing intelligence and virtue. It is hardly conceivable that so much intelligence and virtue could have come about by chance. There must, therefore, be some one at least as intelligent and virtuous as we are, who set the cosmic machinery in motion with a view to producing Us." I am sorry to say that I do not find this argument so impressive as it is found by those who use it. The universe is large; yet, if we are to believe Eddington, there are probably nowhere else in the universe beings as intelligent as men. If you consider the total amount of matter in the world and compare it with the amount forming the bodies of intelligent beings, you will see that the latter bear an almost infinitesimal proportion to the former. Consequently, even if it is enormously improbable that the laws of chance will produce an organism capable of intelligence out of a casual selection of atoms, it is nevertheless probable that there will be in the universe that very small number of such organisms that we do in fact find.

Then again, considered as the climax to such a vast process, we do not really seem to me sufficiently marvellous. Of course, I am aware that many divines are far more marvellous than I am, and that I cannot wholly appreciate merits so far transcending my own. Nevertheless, even after making allowances under this head, I cannot but think that Omnipotence operating through all eternity might have produced something better. And then we have to reflect that even this result is only a flash in the pan. The earth will not always remain habitable; the human race will die out, and if the cosmic process is to justify itself hereafter it will have to do so elsewhere than on the surface of our planet. And even if this should occur, it must stop sooner or later. The second law of thermodynamics makes it scarcely possible to doubt that the universe is running down, and that ultimately nothing of the slightest interest will be possible anywhere. Of course, it is open to us to say that when that time comes God will wind up the machinery again; but, if we do say this, we can base our assertion only upon faith, not upon one shred of

scientific evidence. So far as scientific evidence goes, the universe has crawled by slow stages to a somewhat pitiful result on this earth, and is going to crawl by still more pitiful stages to a condition of universal death. If this is to be taken as evidence of purpose, I can only say that the purpose is one that does not appeal to me. I see no reason therefore to believe in any sort of God, however vague and however attenuated. I leave on one side the old metaphysical arguments, since religious apologists themselves have thrown them over.

THE SOUL AND IMMORTALITY

The Christian emphasis on the individual soul has had a profound influence upon the ethics of Christian communities. It is a doctrine fundamentally akin to that of the Stoics, arising as theirs did in communities that could no longer cherish political hopes. The natural impulse of the vigorous person of decent character is to attempt to *do* good, but if he is deprived of all political power and of all opportunity to influence events he will be deflected from his natural course and will decide that the important thing is to *be* good. This is what happened to the early Christians; it led to a conception of personal holiness as something quite independent of beneficent action, since holiness had to be something that could be achieved by people who were impotent in action. Social virtue came therefore to be excluded from Christian ethics. To this day conventional Christians think an adulterer more wicked than a politician who takes bribes, although the latter probably does a thousand times as much harm. The mediæval conception of virtue, as one sees in their pictures, was of something wishy-washy, feeble, and sentimental. The most virtuous man was the man who retired from the world; the only men of action who were regarded as saints were those who wasted the lives and substance of their subjects in fighting the Turks, like St. Louis. The Church would never regard a man as a saint because he reformed the finances, or the criminal law, or the judiciary. Such mere contributions to human welfare would be regarded as of no importance. I do not believe there is a single saint in the whole calendar whose saintship is due to work of public utility. With this separation between the social and the moral person there went an increasing separation between soul and body, which has survived in Christian metaphysics and in the systems derived from Descartes. One may say, broadly speaking, that the body represents the social and public part of a man, whereas the soul represents the private part. In emphasizing the soul Christian ethics has made itself completely individualistic. I think it is clear that the

net result of all the centuries of Christianity has been to make men more egotistic, more shut up in themselves, than nature made them; for the impulses that naturally take a man outside the walls of his ego are those of sex, parenthood, and patriotism or herd instinct. Sex the Church did everything it could to decry and degrade; family affection was decried by Christ himself and by the bulk of his followers; and patriotism could find no place among the subject populations of the Roman Empire. The polemic against the family in the Gospels is a matter that has not received the attention it deserves. The Church treats the Mother of Christ with reverence, but He Himself showed little of this attitude. "Woman, what have I to do with thee?" (John ii, 4) is His way of speaking to her. He says also that He has come to set a man at variance against his father, the daughter against her mother, and the daughter-in-law against her mother-in-law, and that he that loveth father and mother more than Him is not worthy of Him (Matt. x, 35-37). All this means the break-up of the biological family tie for the sake of creed—an attitude which had a great deal to do with the intolerance that came into the world with the spread of Christianity.

This individualism culminated in the doctrine of the immortality of the individual soul, which was to enjoy hereafter endless bliss or endless woe according to circumstances. The circumstances upon which this momentous difference depended were somewhat curious. For example, if you died immediately after a priest had sprinkled water upon you while pronouncing certain words, you inherited eternal bliss; whereas, if after a long and virtuous life you happened to be struck by lightning at a moment when you were using bad language because you had broken a bootlace, you would inherit eternal torment. I do not say that the modern Protestant Christian believes this, nor even perhaps the modern Catholic Christian who has not been adequately instructed in theology; but I do say that this is the orthodox doctrine and was firmly believed until recent times. The Spaniards in Mexico and Peru used to baptize Indian infants, and then immediately dash their brains out: by this means they secured that these infants went to Heaven. No orthodox Christian can find any logical reason for condemning their action, although all nowadays do so. In countless ways the doctrine of personal immortality in its Christian form has had disastrous effects upon morals, and the metaphysical separation of soul and body has had disastrous effects upon philosophy.

SOURCES OF INTOLERANCE

The intolerance that spread over the world with the

advent of Christianity is one of its most curious features, due, I think, to the Jewish belief in righteousness and in the exclusive reality of the Jewish God. Why the Jews should have had these peculiarities I do not know. They seem to have developed during the captivity as a reaction against the attempt to absorb the Jews into alien populations. However that may be, the Jews, and more especially the prophets, invented emphasis upon personal righteousness and the idea that it is wicked to tolerate any religion except one. These two ideas have had an extraordinarily disastrous effect upon Occidental history. The Church has made much of the persecution of Christians by the Roman State before the time of Constantine. This persecution, however, was slight and intermittent and wholly political. At all times, from the age of Constantine to the end of the seventeenth century, Christians were far more fiercely persecuted by other Christians than they ever were by the Roman emperors. Before the rise of Christianity this persecuting attitude was unknown to the ancient world except among the Jews. If you read, for example, Herodotus, you find a bland and tolerant account of the habits of the foreign nations he has visited. Sometimes, it is true, a peculiarly barbarous custom may shock him, but in general he is hospitable to foreign gods and foreign customs. He is not anxious to prove that people who call Zeus by some other name will suffer eternal perdition, and ought to be put to death in order that their punishment may begin as soon as possible. This attitude has been reserved for Christians. It is true that the modern Christian is less robust, but that is not thanks to Christianity; it is thanks to the generations of Freethinkers, who, from the Renaissance to the present day, have made Christians ashamed of many of their traditional beliefs. It is amusing to hear the modern Christian telling you how mild and rationalistic Christianity really is, and ignoring the fact that all its mildness and rationalism is due to the teaching of men who in their own day were persecuted by all orthodox Christians. Nobody nowadays believes that the world was created in B.C. 4004; but not so very long ago scepticism on this point was thought an abominable crime. My great-great-grandfather, after observing the depth of the lava on the slopes of Etna, came to the conclusion that the world must be older than the orthodox supposed, and published this opinion in a book. For this offence he was cut by the County and ostracized from society. Had he been a man in humbler circumstances, his punishment would doubtless have been more severe. It is no credit to the orthodox that they do not now believe all the absurdities that were believed 150 years ago. The gradual emasculation of the Christian doctrine

has been effected in spite of the most vigorous resistance, and solely as the result of the onslaughts of Freethinkers.

THE DOCTRINE OF FREE-WILL

The attitude of the Christians on the subject of natural law has been curiously vacillating and uncertain. There was, on the one hand, the doctrine of free-will, in which the great majority of Christians believed; and this doctrine required that the acts of human beings at least should not be subject to natural law. There was, on the other hand, especially in the eighteenth and nineteenth centuries, a belief in God as the Lawgiver and in natural law as one of the main evidences of the existence of a Creator. In recent times the objection to the reign of law in the interests of free-will has begun to be felt more strongly than the belief in natural law as affording evidence for a Lawgiver. Materialists used the laws of physics to show, or attempt to show, that the movements of human bodies are mechanically determined, and that consequently everything that we say and every change of position that we effect fall outside the sphere of any possible free-will. If this be so, whatever may be left for our unfettered volitions is of little value. If, when a man writes a poem or commits a murder, the bodily movements involved in his act result solely from physical causes, it would seem absurd to put up a statue to him in the one case and to hang him in the other. There might in certain metaphysical systems remain a region of pure thought in which the will would be free; but, since that can be communicated to others only by means of bodily movement, the realm of freedom would be one that could never be the subject of communication, and could never have any social importance.

Then, again, evolution has had a considerable influence upon those Christians who have accepted it. They have seen that it will not do to make claims on behalf of man which are totally different from those which are made on behalf of other forms of life. Therefore, in order to safeguard free-will in man, they have objected to every attempt at explaining the behaviour of living matter in terms of physical and chemical laws. The position of Descartes, to the effect that all lower animals are automata, no longer finds favour with liberal theologians. The doctrine of continuity makes them inclined to go a step further still and maintain that even what is called dead matter is not rigidly governed in its behaviour by any alterable laws. They seem to have overlooked the fact that, if you abolish the reign of law, you also abolish the possibility of miracles, since miracles are

acts of God which contravene the laws governing ordinary phenomena. I can, however, imagine the modern liberal theologian maintaining with an air of profundity that all creation is miraculous, so that he no longer needs to fasten upon certain occurrences as special evidence of Divine intervention.

Under the influence of this reaction against natural law, some Christian apologists have seized upon the latest doctrines of the atom, which tend to show that the physical laws in which we have hitherto believed have only an approximate and average truth as applied to large numbers of atoms, while the individual electron behaves pretty much as it likes. My own belief is that this is a temporary phase, and that the physicists will in time discover laws governing minute phenomena, although these laws may differ very considerably from those of traditional physics. However that may be, it is worth while to observe that the modern doctrines as to minute phenomena have no bearing upon anything that is of practical importance. Visible motions, and indeed all motions that make any difference to anybody, involve such large numbers of atoms that they come well within the scope of the old laws. To write a poem or commit a murder (reverting to our previous illustration), it is necessary to move an appreciable mass of ink or lead. The electrons composing the ink may be dancing freely round their little ball-room, but the ball-room as a whole is moving according to the old laws of physics, and this alone is what concerns the poet and his publisher. The modern doctrines, therefore, have no appreciable bearing upon any of those problems of human interest with which the theologian is concerned.

The free-will question consequently remains just where it was. Whatever may be thought about it as a matter of ultimate metaphysics, it is quite clear that nobody believes in it in practice. Every one has always believed that it is possible to train character; every one has always known that alcohol or opium will have a certain effect upon behaviour. The apostle of free-will maintains that a man can by will-power avoid getting drunk, but he does not maintain that when drunk a man can say "British Constitution" as clearly as if he were sober. And everybody who has ever had to do with children knows that a suitable diet does more to make them virtuous than the most eloquent preaching in the world. The one effect that the free-will doctrine has in practice is to prevent people from following out such common-sense knowledge to its rational conclusion. When a man acts in ways that annoy us we wish to think him wicked, and we refuse to face the fact that his annoying behaviour is a result of antecedent causes which, if you follow them long enough, will

take you beyond the moment of his birth, and therefore to events for which he cannot be held responsible by any stretch of imagination.

No man treats a motor-car as foolishly as he treats another human being. When the car will not go, he does not attribute its annoying behaviour to sin ; he does not say : " You are a wicked motor-car, and I shall not give you any more petrol until you go." He attempts to find out what is wrong, and to set it right. An analogous way of treating human beings is, however, considered to be contrary to the truths of our holy religion. And this applies even in the treatment of little children. Many children have bad habits which are perpetuated by punishment, but will probably pass away of themselves if left unnoticed. Nevertheless, nurses with very few exceptions consider it right to inflict punishment, although by so doing they run the risk of causing insanity. When insanity has been caused it is cited in courts of law as a proof of the harmfulness of the habit, not of the punishment. (I am alluding to a recent prosecution for obscenity in the State of New York.) Reforms in education have come very largely through the study of the insane and feeble-minded, because *they* have not been held morally responsible for their failures, and have therefore been treated more scientifically than normal children. Until very recently it was held that, if a boy could not learn his lessons, the proper cure was caning or flogging. This view is nearly extinct in the treatment of children, but it survives in the criminal law. It is evident that a man with a propensity to crime must be stopped, but so must a man who has hydrophobia and wants to bite people, although nobody considers *him* morally responsible. A man who is suffering from plague has to be imprisoned until he is cured, although nobody thinks him wicked. The same thing should be done with a man who suffers from a propensity to commit forgery ; but there should be no more idea of guilt in the one case than in the other. And this is only common sense, though it is a form of common sense to which Christian ethics and metaphysics are opposed.

To judge of the moral influence of any institution upon a community, we have to consider the kind of impulse which is embodied in the institution, and the degree to which the institution increases the efficacy of the impulse in that community. Sometimes the impulse concerned is quite obvious, sometimes it is more hidden. An Alpine club, for example, obviously embodies the impulse to adventure, and a learned society embodies the impulse towards knowledge. The family as an institution embodies jealousy and parental feeling ; a football club or a political party embodies the impulse towards

competitive play ; but the two greatest social institutions—namely, the Church and the State—are more complex in their psychological motivation. The primary purpose of the State is clearly security against both internal criminals and external enemies. It is rooted in the tendency of children to huddle together when they are frightened, and to look for a grown-up person who will give them a sense of security. The Church has more complex origins. Undoubtedly the most important source of religion is fear ; this can be seen at the present day, since anything that causes alarm is apt to turn people's thoughts to God. Battle, pestilence, and shipwreck all tend to make people religious. Religion has, however, other appeals besides that of terror ; it appeals especially to our human self-esteem. If Christianity is true, mankind are not such pitiful worms as they seem to be ; they are of interest to the Creator of the universe, who takes the trouble to be pleased with them when they behave well and displeased when they behave badly. This is a great compliment. We should not think of studying an ants' nest to find out which of the ants performed their formicular duty, and we should certainly not think of picking out those individual ants who were remiss and putting them into a bonfire. If God does this for us, it is a compliment to our importance ; and it is even a pleasanter compliment if he awards to the good among us everlasting happiness in heaven. Then there is the comparatively modern idea that cosmic evolution is all designed to bring about the sort of results which we call "good"—that is to say, the sort of results that give us pleasure. Here again it is flattering to suppose that the universe is controlled by a Being who shares our tastes and prejudices.

THE IDEA OF RIGHTEOUSNESS

The third psychological impulse which is embodied in religion is that which has led to the conception of righteousness. I am aware that many Freethinkers treat this conception with great respect, and hold that it should be preserved in spite of the decay of dogmatic religion. I cannot agree with them on this point. The psychological analysis of the idea of righteousness seems to me to show that it is rooted in undesirable passions, and ought not to be strengthened by the *imprimatur* of reason. Righteousness and unrighteousness must be taken together ; it is impossible to stress the one without stressing the other also. Now, what is "unrighteousness" in practice ? It is in practice behaviour of a kind disliked by the herd. By calling it unrighteousness, and by arranging an elaborate system of ethics round this conception, the herd justifies itself in wreaking punishment upon the

objects of its dislike, while at the same time, since the herd is righteous by definition, it enhances its own self-esteem at the very moment when it lets loose its impulse to cruelty. This is the psychology of lynching, and of the other ways in which criminals are punished. The essence of the conception of righteousness, therefore, is to afford an outlet for sadism by cloaking cruelty as justice.

But, it will be said, the account you have been giving of righteousness is wholly inapplicable to the Hebrew prophets, who, after all, on your own showing, invented the idea. There is truth in this: righteousness in the mouths of the Hebrew prophets meant what was approved by them and Yahveh. One finds the same attitude expressed in the Acts of the Apostles, where the Apostles began a pronouncement with the words: "For it seemed good to the Holy Ghost, and to us" (Acts xv, 28). This kind of individual certainty as to God's tastes and opinions cannot, however, be made the basis of any institution. That has always been the difficulty with which Protestantism has had to contend: a new prophet could maintain that his revelation was more authentic than those of his predecessors, and there was nothing in the general outlook of Protestantism to show that this claim was invalid. Consequently Protestantism split into innumerable sects, which weakened each other; and there is reason to suppose that a hundred years hence Catholicism will be the only effective representative of the Christian faith. In the Catholic Church inspiration such as the prophets enjoyed has its place; but it is recognized that phenomena which look rather like genuine divine inspiration may be inspired by the Devil, and it is the business of the Church to discriminate, just as it is the business of an art connoisseur to know a genuine Leonardo from a forgery. In this way revelation becomes institutionalized, and fitted into the framework of the Church. Obviously righteousness becomes institutionalized at the same time. Righteousness is what the Church approves, and unrighteousness is what it disapproves. Thus the effective part of the conception of righteousness is a justification of herd antipathy.

It would seem, therefore, that the three human impulses embodied in religion are fear, conceit, and hatred. The purpose of religion, one may say, is to give an air of respectability to these passions, provided they run in certain channels. It is because these passions make on the whole for human misery that religion is a force for evil, since it permits men to indulge these passions without restraint, where but for its sanction they might, at least to a certain degree, control them.

I can imagine at this point an objection, not likely to be urged perhaps by most orthodox believers, but nevertheless

worthy to be examined. Hatred and fear, it may be said, are essential human characteristics ; mankind always have felt them and always will. The best that you can do with them, I may be told, is to direct them into certain channels in which they are less harmful than they would be in certain other channels. A Christian theologian might say that their treatment by the Church is analogous to its treatment of the sex impulse, which it deprecates. It attempts to render concupiscence innocuous by confining it within the bounds of matrimony. So, it may be said, if mankind must inevitably feel hatred, it is better to direct this hatred against those who are really harmful, and that is precisely what the Church does by its conception of righteousness.

To this contention there are two replies—one comparatively superficial ; the other going to the root of the matter. The superficial reply is that the Church's conception of righteousness is not the best possible ; the fundamental reply is that hatred and fear can, with our present psychological knowledge and our present industrial technique, be eliminated altogether from human life.

To take the first point first. The Church's conception of righteousness is socially undesirable in various ways—first and foremost in its depreciation of intelligence and science. This defect is inherited from the Gospels. Christ tells us to become as little children, but little children cannot understand the differential calculus, or the principles of currency, or the modern methods of combating disease. To acquire such knowledge is no part of our duty, according to the Church. The Church no longer contends that knowledge is in itself sinful, though it did so in its palmy days ; but the acquisition of knowledge, even though not sinful, is dangerous, since it may lead to pride of intellect, and hence to a questioning of the Christian dogma. Take, for example, two men, one of whom has stamped out yellow fever throughout some large region in the tropics, but has in the course of his labours had occasional relations with women to whom he was not married ; while the other has been lazy and shiftless, begetting a child a year until his wife died of exhaustion, and taking so little care of his children that half of them died from preventable causes, but never indulging in illicit sexual intercourse. Every good Christian must maintain that the second of these men is more virtuous than the first. Such an attitude is, of course, superstitious and totally contrary to reason. Yet something of this absurdity is inevitable so long as avoidance of sin is thought more important than positive merit, and so long as the importance of knowledge as a help to a useful life is not recognized.

The second and more fundamental objection to the utiliza-

tion of fear and hatred in the way practised by the Church is that these emotions can now be almost wholly eliminated from human nature by educational, economic, and political reforms. The educational reforms must be the basis, since men who feel hate and fear will also admire these emotions and wish to perpetuate them, although this admiration and this wish will be probably unconscious, as it is in the ordinary Christian. An education designed to eliminate fear is by no means difficult to create. It is only necessary to treat a child with kindness, to put him in an environment where initiative is possible without disastrous results, and to save him from contact with adults who have irrational terrors, whether of the dark, of mice, or of social revolution. A child must also not be subject to severe punishment, or to threats, or to grave and excessive reproof. To save a child from hatred is a somewhat more elaborate business. Situations arousing jealousy must be very carefully avoided by means of scrupulous and exact justice as between different children. A child must feel himself the object of warm affection on the part of some at least of the adults with whom he has to do, and he must not be thwarted in his natural activities and curiosities except when danger to life or health is concerned. In particular, there must be no taboo on sex knowledge, or on conversation about matters which conventional people consider improper. If these simple precepts are observed from the start, the child will be fearless and friendly.

On entering adult life, however, a young person so educated will find himself or herself plunged into a world full of injustice, full of cruelty, full of preventable misery. The injustice, the cruelty, and the misery that exist in the modern world are an inheritance from the past, and their ultimate source is economic, since life-and-death competition for the means of subsistence was in former days inevitable. It is not inevitable in our age. With our present industrial technique we can, if we choose, provide a tolerable subsistence for everybody. We could also secure that the world's population should be stationary if we were not prevented by the political influence of Churches which prefer war, pestilence, and famine to contraception. The knowledge exists by which universal happiness can be secured ; the chief obstacle to its utilization for that purpose is the teaching of religion. Religion prevents our children from having a rational education ; religion prevents us from removing the fundamental causes of war ; religion prevents us from teaching the ethic of scientific co-operation in place of the old fierce doctrines of sin and punishment. It is possible that mankind is on the threshold of a golden age ; but, if so, it will be necessary first to slay the dragon that guards the door, and this dragon is religion.

DARWIN REMEMBERED

BY PROFESSOR SIR ARTHUR KEITH

"It seems to me that this neglect of Darwin's home and of Darwin's life is symptomatic of an ignorance or indifference on the part of the rising generation of scientific men of how much they owe to Darwin and to Down. The day will assuredly come when Down will rival Stratford-on-Avon as a Mecca for pilgrims.....It may be soon or it may be late, but assuredly the morning will dawn when England will wake up to its neglect of Darwin."—*The R. P. A. Annual*, 1923.

SIX years ago I contributed to these pages a short article entitled "Neglected Darwin." It seemed to many of us then that the world was forgetting Darwin—forgetting what it owed to him. We, who ought to have known better, were permitting blatant literary huxters to proclaim aloud in the market-place the grossest travesties of the man and of his works without seeking to enlighten the public as to where the truth lay. Symptomatic of our neglect was our indifference to Down House—Darwin's home in Kent, where he accomplished his life's work. As evidence that there was a real danger of Down House passing out of existence, I will quote the following note written by the Master of Darwin's college, the late Sir Arthur Shipley:—

Christ's College Lodge, Cambridge, May 18, 1923.

My dear Keith,—

Mr. R. S.-S. was at Down at Easter, and he tells me that Charles Darwin's house is empty and rapidly deteriorating. It seems to me that that house ought to be a national possession. Do you know of any means by which this can be brought about?

Yours very sincerely,

A. E. SHIPLEY.

Alas, I knew of no source from which help was likely to come. We biologists are proverbially poor; we live a hand-to-mouth existence; our utmost collective effort could have done no more than buy an option on the property, with no hope of meeting the purchase price when it fell due. Circumstances were against us. Like all big rambling country mansions, Down House ceased to be in demand as a residence in the post-war period; such fine old English homes had to be converted to some other purposes, or make way for the demands of the speculative builder. Such houses became a

burden to their owners ; rents scarcely covered the costs of their maintenance. Manifestly it was unfair and unchivalrous for us to expect that the Darwin family, however willing it might have been, should bear permanently a burden which we ought to have been proud to shoulder. In 1923 it looked as if Darwin's home were doomed.

As all now know, a timely rescue was made. When the British Association met in Glasgow on September 5, 1928, under the presidency of Sir William Bragg, its Council was in a position to announce that Mr. George Buckston Browne had acquired Down House and grounds from Professor Charles Dalton Darwin, F.R.S., and "transferred their possession to the British Association under the most liberal conditions and with an endowment amply sufficient for their maintenance and preservation for all time." Thus suddenly and unexpectedly this part of our "neglect of Darwin" was wiped out by one who, while engulfed in the turmoil which necessarily overwhelms every surgeon who is eminent and successful in his profession, found time to pay modest and unostentatious visits to his shrine at Down. For Mr. Buckston Browne had studied under Huxley ; he knew from personal experience the revolution which Darwin had wrought on man's outlook on the past, present, and future ; he rejoiced in the freedom Darwin had won for thoughtful men—for men who formerly were stifled by the tyranny and narrowness of inherited creeds. He was determined, long before the British Association made its appeal at Leeds in 1927, to place on record an acknowledgment of his indebtedness when the right opportunity presented itself. The meeting of the Association in Leeds merely gave him the opportunity he had been waiting for. When he made Down House a national possession he wisely made the British Association its custodian. The Association represents all branches of advancing progressive knowledge ; it embraces all the scientific men (I should like to write rational men, but am uncertain whether we may make "rational" and "scientific" equivalent terms, although they ought to be) of all parts of the British Empire ; all sections of the Association are directly or indirectly concerned with Darwinism. The Association is so organized that we may reasonably expect that it will endure as long as men are guided by knowledge. It is incorporated by Royal Charter, and can thus hold and administer property. The gift has been handed over most generously and without conditions, the donor trusting to the wisdom and good faith of successive generations of scientific men to maintain and administer Down House so as best to serve the needs of posterity.

The purchase and endowment of Down House represent

only a part of our indebtedness to Mr. Buckston Browne. He was impatient to see his scheme realized; a tenant was in possession of Down House with a lease which had still fifteen years to run. The Association bought the tenant out, and Mr. Buckston Browne obtained access at Christmas, 1928. It was soon apparent to him that, if Down House and its surroundings were to be preserved, renovations of a most extensive and radical kind had to be carried out. Roof, walls, and woodwork were all giving way. Under his personal supervision, and at his personal expense, a firm of builders repaired and restored the house inside and out. Modern systems of lighting and heating were introduced, but otherwise scrupulous care was taken to preserve the rooms and their fittings as they were in Darwin's time. The rooms on the ground floor were set aside as public apartments; the upper floors were adapted to serve as a commodious residence for the officer or occupier whom the Association might wish to nominate. Mr. Buckston Browne also took with him from London two highly skilled artisans—Henry and Samuel Robinson—to help him in his plans; men whom he knew from long experience to be able and trustworthy. He gave them permanent quarters at Down, and trained them for the part they were to play as custodians when the house was opened to the public.

Having renovated the house, Mr. Buckston Browne then applied himself to furnishing the rooms of the ground floor as they were when Darwin lived in them. He appealed to all members and representatives of the Darwin family, and was given a most generous response. He was thus able to furnish the "old study" as it was when Darwin wrote in it *The Origin of Species*. In the hall were placed the old table and the jar in which Darwin kept his snuff. Much of the drawing-room furniture was recovered. To furnish the dining room Mr. Buckston Browne stripped his own home of treasures he had acquired from time to time—pictures, chairs, tables, and ornaments which had associations with Erasmus Darwin, with the Wedgwoods, and with eighteenth-century Derby. He commissioned the Hon. John Collier to paint replicas of his portraits of Darwin and of Huxley. He acquired all authentic portraits and busts of Darwin he could discover.

Thus it came about that on June 7 there was a gala day at Down. Mr. Buckston Browne had finished his costly and self-imposed task; he had brought order out of chaos, and was ready to hand over the future care of Darwin's home to its custodian—the British Association. He had permitted the income from his endowment to accumulate, so that the Association began its administration with a sum in hand. The Association at its own expense had brought gardens,

grounds, and shrubberies into partial order. Everything was ready for an opening ceremony and the daily reception of the public. We were given a summer afternoon in which sun, wind, and clouds all played their part; showers threatened, but never came. The place was gay with flags; a marquee had been erected on the lawn; guests began to arrive in their hundreds; some came by coach from London, others from Orpington, which is about five miles distant, and from Bromley, which is about eight. Perfect arrangements had been made, and the satisfaction of guests and visitors was rendered complete by finding in their midst all surviving members of Charles Darwin's family.

The opening procedure was brief and simple. Mr. Buckston Browne, standing on the verandah of the drawing-room, paid a just tribute to Darwin's greatness, expressed his indebtedness for an opportunity of doing honour to Darwin's memory, and formally transferred his gift to the keeping of the Association. It was received and acknowledged by the President of the Association, Sir William Bragg, who then called on me to declare Down House to be open henceforth for the enjoyment and benefit of the public. I had foreseen that the occasion would not be an easy one to meet with suitable words. My audience would not wish to listen to a recital of Darwin's scientific triumphs; they were as familiar with them as I was, perhaps more so. We had assembled in Darwin's home, and it seemed to me that it was his personality—his domestic personality—which should provide my theme. I was moved also in this direction by the gross ignorance and wilful misrepresentation which prevail concerning Darwin's personality. There are still many millions who believe that men can live good, unselfish, and upright lives only if they accept the Bible as their text-book of science; in their innocence they believe that men and women who have parted with the book of Genesis have shed the last rags of their morality. They forget, or never knew, that it was not modern men of science who linked religion to science; that was done by ignorant men several thousand years before Darwin was born. For these and other reasons I thought it well to recall some of the outstanding features of Darwin's personality. Whether I was right or wrong in my choice of theme and in its treatment I cannot tell; but readers will be able to judge for themselves if they read my short address, which is reproduced here in full for the first time:—

, Thanks to the munificence of Mr. Buckston Browne, we are to-day able to throw open to all the world the home of an English gentleman, Charles Darwin. From henceforth it becomes a national possession, entrusted to the care of the British Association for the Advancement of Science. Its rescue was made just in time. In

another generation Darwin's home would have gone the way that all human homes go sooner or later ; widespread decay had set in, and Greater London, spreading into Kent, would have eaten up this retreat from which Darwin spoke to the great world of his day.

All danger of such a fate overtaking one of the historical homes of England is now past. Mr. Browne has not only made Down House a national gift ; he has repaired it, inside and out, top and bottom ; at great personal pains and expense he has restored the chief rooms of the house to the state they were in when Darwin occupied them ; thanks to the generosity of the Darwin family and to their ever-ready co-operation, he has been able to place in their appropriate niches pieces of furniture actually used by Darwin, and to exhibit personal relics of the great naturalist. Further, he has secured his gift against the ravages of time by an ample endowment for maintenance. Thus to-day a dream which some have dreamt has come suddenly and unexpectedly true. In this little area of the chalky uplands of Kent the nineteenth century will continue to bloom and remain an oasis where our successors, worn with the cares of centuries, may repair for refreshment and inspiration.

Why should this desirable home be withdrawn from active service in the community and be dedicated to an altogether special purpose ? It is because there is here enshrined the personality of a great man. Darwin's home is one which we are justly proud to claim as English, and which we are convinced our children's children will value as we do. I have no doubt they would have held this generation blameworthy if it had made no effort to save it for them. Our distant successors, I am sure, will be proud of it, not so much perhaps on account of the books which were composed and written within its walls, but rather, I suspect, because of the personality of the man who wrote them. In the ultimate scale of reckoning men will always place goodness above greatness ; Darwin was both good and great. It is right that we should stress now this personal aspect of Darwin's life, for the character of no man has been so wilfully travestied in his century as well as in ours. He was an English gentleman. We have the best of reasons for believing he came of a stock which has lived for more than 3,000 years on English soil : that seems a sufficiently long period to make him English to the core. He was gentle and modest almost beyond parallel ; loving and loved in this his home as few men have been ; thoughtful for his community, just and charitable even to those who sought to brand him as an enemy of mankind. Down House was an abode of goodness as well as of genius ; that is one reason why it should become a national heritage.

It is true that, were it merely an English home of the nineteenth century that we wished to perpetuate, there is a wealth of choice at our disposal, but hardly one, I think, which sheltered such a gifted family as grew up within these walls. We are moved to-day, however, by a purpose which is not bounded by national frontiers. We are honoured to-day by the presence of representatives of other countries besides our own. France has sent as her delegate one of her most distinguished men of science—Professor R. Anthony, of the Museum of Natural History, Paris. Our sister Society, the

American Association for the Advancement of Science, and also the Philadelphia Academy of Natural Sciences, are represented by Dr. Joseph Leidy, whose uncle was the close friend of Huxley and of Darwin. Only an engagement of the most pressing nature has prevented the distinguished President of the American Association—Dr. Henry Fairfield Osborn—from being with us to-day. All our colonies are represented, for the British Association draws its membership from all parts of the Empire. Our Association represents the commonality of the British peoples.

Thus our ceremony to-day has an international character, and it is right that this should be so. The truth is that Darwin, quite unwittingly, made these few acres of Kentish upland an international possession. In the place where we are now met, in these grounds, gardens, orchards, meadows, and walks, and within these walls, were slowly hammered hot from fact new doctrines which, radiating out from here, slowly penetrated to the ends of the earth, giving humanity a new interpretation of living things and of its relationship to them. Human thought was forcibly and permanently thrust from its old time-honoured ruts.

Even more important than his teaching was the manner in which Darwin taught the world from Down. He permitted the bare, unbusked truth to speak for itself; he went only so far as the light of reason would carry him. Only men who teach thus continue to teach for all time. Down House, then, is not a national but an international possession—a common heritage for truth-seekers of all countries and of all centuries.

Mr. Buckston Browne, in conveying his gift to the British Association, made no stipulations; he did not wish Darwin's home to be bound by the dead hand of the law. He rightly trusted to the good sense of the succession of men who will preside over the affairs of the British Association to carry out certain expressed personal wishes, which were (1) that Down House and grounds should be maintained as near as possible in the state given to them by Darwin; (2) that the public, irrespective of nationality or of creed, should be given free access to the public rooms and to the grounds. And one condition we have made—that the name of Buckston Browne be associated with the gift, in memory of the donor's beloved son and grandson.

There was another wish expressed by the donor, and, to my way of thinking, a very important one. It was the wish that the Council of the British Association will use Down House to advance the cause of science in what way it thinks best. This implied condition enhances the quality of the gift, for no one desires to see English land thrown into permanent fallow or property estranged from lawful use. I shall justify the place of sentiment in science presently, but we need not sacrifice more to sentiment than can be fully justified. In what way Down may best serve the advance of knowledge is a matter which will take time to determine. If any place can provide inspiration for research, it should be Darwin's own gardens. No doubt, if the Council of the Association could catch a young Darwin and place him here, history would repeat itself; but then, if the law of chance continues to hold, it may have to wait a millennium before such a treasure is secured. Meantime

the Council has resolved to instal its trusted permanent Secretary as Resident Officer at Down House.

I have said something of Darwin's personality, and very little of his science ; I have spoken of Down House as a home of reason, but I have said nothing of the deeper motives which moved us towards the object now accomplished. What is the reason or motive which has made it so desirable for us to see Down House become a permanent sanctuary for Darwinian pilgrims? We are probably moved by diverse reasons and motives. Let me state my own case. My first visit to Down House made an indelible impression on my memory. I obtained a background for a mental picture in which the living Darwin moved, experimented, thought, and suffered—such a picture as no verbal description can give. My gain was that which a historian knows when he has made a personal survey of a battle-field where great issues have been determined. A student will never know Darwin until he knows Down. To see Down is the best way to obtain an introduction to Darwin's works. You cannot separate science from personality. If this was my case when I visited Down, I who was born and bred in Darwin's lifetime, what would have been the case of students born centuries hence if a public-spirited and generous man had not stepped in and saved Darwin's home for them? Its preservation may be regarded by some as a luxury ; but are not luxuries the indispensable embroideries of a full life?

It is usually supposed that science and sentiment are incompatibles ; it certainly is the case that when sentiment enters a laboratory by the back door science takes the earliest opportunity to escape by the front. And yet men of science, in spite of a widespread belief to the opposite, are really sentimental beings at heart. What we do to-day is an open acknowledgment that sentiment has a place in science. We are not dedicating a monument to Darwin's memory. He needs no monument ; his works will outlast anything we can build in stone. What we are doing to-day is giving way to a sentiment—a desire, an impulse, an appetite, call it what you will—which is deeply implanted in human nature. What is the impulse which compels grown men and women to besiege the homes and invade the lives of famous authors? Is it not a commendable but misplaced form of curiosity or hero-worship? Is not the prime motive which moves us to-day akin to that which whets our appetite for personal details of the men and women who achieve prominence in politics, art, literature, sport, and society? I fear it is. We must confess that we are neither better nor worse than other men. Only in our case there is an excuse : the object of our curiosity is an altogether exceptional man—Charles Darwin. To know him you must first know Down, and for our own good we cannot know too much of either.

ON BEING AN "INFIDEL"*

By PROFESSOR HAROLD J. LASKI

"THE word 'Infidel,'" Dean Wace has somewhere written, "perhaps carries an unpleasant significance. Perhaps it is right that it should. It is, and it ought to be, an unpleasant thing for a man to have to say plainly that he does not believe in Jesus Christ."

There is a certain grim vagueness in these words. The late Dean of Canterbury did not explain what unpleasant things ought to happen to the "Infidel." He did not suggest whether he applied the term to those who, having acquaintance with the history and teachings of Christ, deny the significance attached to them by the organized Churches; or whether they apply also to the millions all over the world to whom the message of Christ has never come. I assume that it was with the former only that the Dean concerned himself; for those cannot logically be accused of having rejected salvation who have never been given the opportunity to embrace it.

I propose, therefore, to inquire why it ought to be an "unpleasant thing" for a man to say plainly that he is an "Infidel." To believe in Christianity is not merely to accept certain principles of conduct as the best way of life. It is to accept them on the authority of certain claims on behalf of Christian dogma the ultimate evidence for which is embodied in the Gospel narratives. Belief, therefore, is ultimately a question of testimony. One must have the same assurance that Christian dogmas—the Incarnation, the Atonement, and the Resurrection—are true as that the Norman Conquest took place in 1066, or that the battle of Waterloo was fought in 1815. For one cannot be asked to believe in dogmas of which the historical accuracy is unestablished. That would be the acceptance of what may be legend, and even untruth, as not less worthy of credence than fact. It would be to argue that "unpleasant things" ought to happen to a man who has in all sincerity tried to accept Christian dogma and has failed. It would mean that the God of the Christians

* I use the term "Infidel" as sanctioned by the habits of less gracious religious apologists. The attitude it is intended to condemn is, of course, more properly termed "Rationalism."

desires "unpleasant things" to happen to men whose conduct is admirable, whose service to humanity is beyond doubt, whose sincerity no person could call into question. I do not know what kind of a God Dean Wace and his followers would call one who had such desires; but I think he would, if such were his nature, demand the contempt of all right-thinking men. Wherever the source of good was to be found, it could not, I suggest, be found in his will.

An "Infidel" is a person who does not accept the truth of the Christian revelation. What reasons are there, of an adequate kind, which suggest for a moment that an "Infidel" is in any way a less desirable member of society than one who has faith? No one, since the time of Bayle, has seriously controverted his argument that a society of Atheists may be as moral as a society of believers. No one will seriously maintain that the possession of religious faith is itself a guarantee of good conduct. No one, either, will seriously argue that the history of the Christian Churches, whatever benefits to mankind it may reveal, is not also the history of organized and continuous outrage upon the conscience of mankind. The possession of faith, in a word, seems entirely irrelevant to the question of good conduct. A man, clearly enough, may be a good citizen in every sense of the word that is, in a secular sense, measurable, without ever having heard of Christianity at all. That must, at least, have been true of some men—Socrates, for example—in the centuries before Christ.

But let us suppose that an "Infidel" desires to accept Christianity. How can he know what "acceptance" legitimately implies? Is it merely a question of accepting certain dogmas? If so, what are the necessary dogmas? Is it, in addition, a question of joining some Church in which the Christian tradition and the Christian way of salvation are embodied? If so, which of the Christian Churches fulfils these conditions? Must one go the whole way to Rome? Or is it sufficient to accept the *via media* of Anglicanism? Or are the minimal formulæ of Unitarianism adequate? On none of these questions is there even an approximation to agreement among men who call themselves Christians. Yet, surely, an "Infidel" is entitled to know with some precision for what his allegiance is asked before he gives it.

Let us suppose that he wavers between Anglicanism and Rome. The advocates of each appear before him to prove the rightness of their peculiar specific. They cannot prove that rightness save in terms of testimony; they must put forward evidence by the compelling force of which his reason is convinced. For a *credo quia impossibile* is, after all, possible only to those within the fold already; it is not experienced

by the sinner who is merely seeking the proper formulæ of repentance. What, for instance, is the duty of the "Infidel" who, after the most patient examination of the claims of different Churches, concludes that the evidence by which they support those claims is unsatisfactory? If he is to stifle doubt, which doubt is he to stifle? Surely he cannot select between his doubts except upon principle? And if he is to act upon principle at all, why is he not to act upon that supreme principle which insists that in all matters of vital concern he is not entitled to any belief of which his reason does not approve?

What, ultimately, is the Christian answer to the "Infidel's" difficulty in believing that the Christian Churches (or some one of them) embody the Divine way of salvation? Obviously that this is the case, because the Scriptures represent the word of God. But the statement that the Scriptures represent the will of God rests upon the authority of the Churches; and the authority of the Churches rests, in its turn, upon the Scriptures. The value of the Churches' witness depends entirely upon the evidential value of the Scriptures themselves. In any other realm but that of religion no one would dream of arguing that such evidential value could be established by any process other than that normally applied to historical documents. In a realm like this, where the outcome of the examination is the possibility of salvation, it is surely more important than in any other realm that the normal tests of historical adequacy should be satisfied. The Gospels were written down by men. The statement that they were inspired rests only upon the fact that they tell us so. They may be right. But the "Infidel" may be pardoned for believing that he is entitled to proof that they are right, just as he asks for proof of any other historical claims. For, otherwise, why should he not accept the assertions of Spiritualists (which Roman Catholics believe to be of the Devil), or of Pagans, or of Joseph Smith (which Christians generally believe to be gross and ignorant superstition)?

There is no patent advantage to be derived from being an "Infidel." For the most part it still bars the way to political office. A man could not hope, I think, to be President of the United States if he announced that he was an Atheist; and it is doubtful, at least, if he could easily continue to be Prime Minister if he refused, say, to attend the national memorial service on Armistice Day. The Churches have made it less than respectable to be an "Infidel"; and a failure to conform to normal standards always brings with it social penalties in varying degree. The "unpleasantness" of which Dean Wace spoke is neither as widespread nor as profound in England as it was fifty or even thirty years ago. But it

is still widespread and profound in most Roman Catholic countries, and in many parts of the United States. Had Sacco and Vanzetti been ardent Roman Catholics as well as anarchists it is not improbable that they would have been very differently treated in Boston. What was really fatal to them was their combination of anarchism with "infidelity." That convinced the supporters of the Government that they deserved the "unpleasant thing" they received.

But the "Infidel" is not merely in the difficulty of being dissatisfied, on grounds of reason, with the original testimony upon which the Christian revelation is founded. He feels grave doubt of the truth supposed to be resident in the claims of the Church both from the manner in which those claims have been enforced and the social consequences to which they have given rise. He observes that many of the explanations of natural phenomena made by the Church have been wholly disproved, and that the Church has sought, as long as it possibly could, to answer scientific proof with persecution or malevolence. He cannot reconcile an embodiment of the will of God with its treatment of Giordano Bruno, of Galileo, or of Darwin. He finds it no easy matter to believe that the Church which has sanctioned innumerable massacres, which has even, as with the Spiritual Franciscans, persecuted those who sought to live the simple creed of its original founders, is thereby carrying out the will of a God who is the principle of goodness. He is faced with the dilemma that either the God in whose name these atrocities are perpetrated is evil, in which case he has no desire to join in his worship; or alternatively, though he is good, the Church cannot be trusted to fulfil his will, in which case continuous membership of the Church is obviously undesirable.

Nor, in general, can he accept the social policy of the Church. In England, for example, he is bound to note that every movement for the humanization of the marriage laws has been opposed by clerical influence. The Roman Catholic Church insults both his intelligence and his conscience by assuming that a marriage between a syphilitic drunkard and an innocent and inexperienced girl is a sacrament not to be broken by society, however disastrous its consequences. Most of the Churches, by their attitude to birth control, suggest to him, as some of them suggested when anæsthetics were first discovered, that ancient and ignorant prejudice prevents them from acquiescing in the amelioration of human suffering by science. If he examines the history of national education, he finds that the Churches have consistently sought either to monopolize its control for themselves or, alternatively, to make the training of the mind subordinate to the requirements of their particular

dogmas. He remembers how consistently their teachers have preached acquiescence in social injustice, lest they offend the powerful, and so weaken their hold upon the sources of authority. He remembers how much more anxious the Church has been to retain its property than to assert its spiritual freedom. With hardly a murmur, it has allowed the Judicial Committee of the Privy Council and Parliament to deprive it of fundamental dogmas; but on questions of disendowment it has shown itself capable of unlimited indignation. In a period like the last war it showed itself not merely the submissive servant of the State in the most dubious propagandist realms, but even incapable, only too often, of sympathy with the conscientious objector. Yet the early makers of the Christian Church were themselves conscientious objectors, and its power is built on their steadfastness in a creed then condemned by the vast majority.

Grounds such as these seem, of themselves, to leave to the unbeliever no alternative save "infidelity." But his case does not end there. He is compelled, also, to the rejection of Christian dogma on grounds derived from the comparative study of religions and the evidence of comparative anthropology. He sees in Christian theology and ceremonial ideas and practices born not of logic nor of fact, but of the typical striving of primitive peoples in part to explain a world they do not understand, and, in part also, to propitiate superior natural forces of whose power they are afraid. He resents the anthropomorphism of Christianity, its attempt to make God in the image of man. And he observes that the more a purified theology seeks to strip it of its anthropomorphic trappings, the less does it remain essentially Christian, the more it becomes a merely philosophic system the authority of which depends upon the adequacy it can prove for the logic it embodies. Certainly certain modern Christians who remain in the Church while they reject every dogma for which it has done battle in the past raise for him interesting questions about the limits of conformity and the nature of sincerity.

In a sense, this basis of "infidelity" is negative in character: it is a body of reasons for rejecting Christian dogma mainly built on historical grounds. The "Infidel" in earlier ages would, I think, have been disturbed by his lack of faith, and have sought some ground for its excuse. He would have protested, without question rightly, that the value of his sincerity to society was greater than his value as a hypocrite; that he did no good to himself or others by forcing himself to conformity in despite of his intelligence. Even Churchmen, though not, it seems, Dean Wace, have recognized the justice of this attitude. They have held that their religion is one of love, and therefore without title to converts who do not come

to accept it with complete freedom of choice. Or there have been others—John Locke, for example—who have argued that, since a man can be a good constable without necessarily professing the Christian faith, society is generally disinterested in the religious creed a man may hold.

But the modern "Infidel" can, I think, justify his failure on more positive grounds. He can argue that it is definitely undesirable for men to believe in principles for which no satisfactory evidence appears to exist. That is, he can urge, true in politics and economics, in science and in religion. All principles of this type are dangerous, since they persuade men to act upon certainties which, in the long run, turn out to be without basis in fact. Irrationalism of this kind is the nurse of all kinds of evil, of which superstition is not the least by any means. The habit of certitude is one which persuades men, as nothing else persuades them, to cruelty and excess. It leads them to attribute genuine intellectual difference to original sin. It makes them so confident that their own views are right that they act upon the assumption that other views are criminal. They are unable to take account of diversity of experience, diversity of temperament, diversity of need. In his religious life, for example, Mr. Gladstone was obviously and sincerely conscious of communion with a Higher Being, from whom he derived spiritual inspiration; but it was, I think, unfortunate for English politics that he tended to associate the political measures he upheld with the same source of origin. When Lord Sydenham, who is, no doubt, an earnest and high-minded Christian, writes to the press about Russians, Socialists, trade-union leaders, and pacifists, he is unable to resist the implication that a careful examination of their lives would probably demonstrate that they belong to the criminal classes. The Duke of Northumberland has the same happy certainty that his opinions are one with ultimate truth. Most convinced Marxians display the same temper when they answer the critics of the peculiar Church to which they belong.

The danger of this certitude is that it makes opposition unendurable to those who possess it; instead of a patient willingness to convince mankind of the principles they profess, they become anxious, be the cost what it may, to impose them upon others. The scepticism of the modern "Infidel" is free from this habit of mind, a habit which I believe to be a defect. No opinion is more true because men hold to it passionately. No opinion is made more true by imposing penalties upon those who cannot believe it. The wise way, above all in religious matters, is to state your case, to buttress it with all the arguments you can find in its support, to answer, as rationally and carefully as you can, the criticisms that are

urged against it. Men who are prepared to take this attitude have almost always grounds for it in which others can find justifiable conviction. And, on the contrary, when a man flies to violence rather than reason for support of his view, when he abuses rather than argues, attacks rather than expounds, his temper is a measure of the little confidence he has in the power of his view to persuade others to its acceptance.

Those who think sceptically in any society are probably a minority of its members. Yet I believe that upon the growth of this habit of mind, with the "infidelity" it will involve, depends very essentially the happiness of mankind. For we have learned from the methods of religious controversy to be violent in political and economic disputes. We tend to make our principles in those realms creeds also, with armies marching to do combat on their behalf. We imprison and execute for the intellectual error of Communism in capitalist societies, we imprison and execute for the error of individualism in a Communist society, exactly as men imprisoned and executed for theological error until the early years of the nineteenth century. We are rapidly approaching a time when few people can hope to have attention for their views if they state them with sober moderation. We kill scepticism by propaganda, and we do not mind poisoning the wells of truth so long as authority can have its way. That has been the historic practice of Churches; and the modern State, in making itself a Church, is building itself upon a classic body. Yet, if we were to make of "infidelity" a virtue and examine the evidence for principles before we made them into dogmas to be defended with fire and sword, it is not improbable that our civilization might be rendered more happy. At the least, it might be taught to respect reason, which is the one feature by which man is distinguished from brute creatures. Such a world, doubtless, would be less passionate than in former ages. But even if it were un-Christian, it is probable that it would be enlightened.

SOME REFLECTIONS ON MATERIALISM

By J. B. S. HALDANE

LOOKERS-ON often see the best of a game. Materialists of a philosophical bent are commonly too occupied in argument with their opponents to draw the logical deductions from their own position. I am not myself a Materialist, but for the above reason I feel that Materialists often fail to do themselves justice. And it is futile either to deny the importance of Materialism or the large element of truth which it contains. It has been pretty completely successful in astronomy, physics, and chemistry. In biology I do not think that any facts inconsistent with it have been discovered. Nevertheless, the biologist must take cognizance of facts (such as the unity of the organism) which have not yet been fully explained on Materialistic lines, and perhaps never will be. In the field of history, both theoretical and practical, Materialism has met with a considerable measure of success in the hands of Marx, Engels, Lenin, and their disciples.

Moreover, Lenin's success as a practical historian—that is, a maker of history—has made Materialism the official creed of the Union of Socialist Soviet Republics. This body may, of course, collapse on economic grounds; but such an eventuality seems far less likely to-day than it did six or even three years ago. Hence Materialism will probably be adopted by a large section of the human race, though most of them will presumably no more be consistent Materialists than their ancestors were consistent Christians.

I am not myself a Materialist because, if Materialism is true, it seems to me that we cannot know that it is true. If my opinions are the result of the chemical processes going on in my brain, they are determined by the laws of chemistry, not those of logic. If I believe that I am writing with real ink on real paper (for, as I write on subjects other than pure science almost entirely in railway trains, I do not use a typewriter), I have no guarantee that this is true. I can only say that the chemical processes associated with that belief increase the probable duration of my brain. And various illusions may have this effect. Unless the chemical processes associated

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with a belief in transubstantiation went on in the brains of my ancestors between about 1400 and 1550 A.D., these brains were liable to be rapidly oxidized at a high temperature. During the next century, however, the chemical processes associated with disbelief in transubstantiation had a similar survival value. But transubstantiation, if it was true before the Reformation, did not cease to be so on account of Luther and Calvin. To put the matter in another way, if a super-biochemist made a working model of me, atom for atom, this robot would, on a Materialistic view, have all my memories. This may be the case, but if so no knowledge is possible.

Most of the other arguments against Materialism seem to me fairly worthless. Materialists are no worse morally than other people. They need not disbelieve in morality. If matter can produce consciousness and truth as by-products, why should it not produce moral obligations? They need not be Atheists, though they generally are. But some Jews and Christians, not to speak of Edgar Allan Poe, have regarded God as a fine type of matter pervading the grosser kinds; and some Atheists, such as the late Dr. MacTaggart, have regarded all so-called material objects as mind in masquerade.

Most people's only serious objection to Materialism is simply that they find it an unpleasant idea. Obviously, however, the pleasantness of an idea is no evidence for its truth, nor *vice versa*. Many of the objections to it on this ground are, moreover, quite unfounded. For example, it is generally supposed to be incompatible with a belief in eternal life for the human individual, whereas, as a matter of fact, it probably implies eternal life, as we shall see later.

At the present time it is being attacked by physicists from two points of view. Ordinary physical observation strongly suggests that every event has a cause. But modern atomic physics does not require this principle, and it is a sound rule in science not to invoke unnecessary principles. The reason for the impasse may be illustrated by a simple case. If we have a large number of "excited" atoms—i.e., atoms with more internal energy than they can keep permanently—we can show that, under given conditions, half of them will give up the extra energy within a certain time, say a thousand millionth of a second. If, for example, the excited atoms are sodium atoms, as when we throw salt into the fire, most of the extra energy comes off according to definite laws in the characteristic yellow light. But we cannot tell what an individual atom will do; we can only state the probability that it will do something within a given time. This leads to substantial certainty when we are concerned with large numbers of atoms.

For example, there are about 10^{19} (ten trillion) atoms in a pin's head. Suppose that its physical behaviour is predicted by the laws of physics on the basis that just half the atoms in it will undergo a given process, the chance that one atom in a million will behave in an unexpected manner is rather less than the chance that a hundred thousand bridge deals running, after thorough shuffling, will give each player one suit and one only. In other words, such an event is humanly impossible, though theoretically possible.

However, Eddington, in his Gifford lectures,* has suggested the possibility that atomic indeterminism is the same thing as human free-will. In this case the brain is a device for magnifying the undetermined behaviour of atoms to an observable scale. One cannot deny such a possibility. But a biologist can make two comments on it. In the first place, the main task of biology is to explain the fact that living creatures obey laws which cannot be predicted from our present knowledge of physics. We have to explain, for example, why we tend to resemble our parents; and there are plenty of reasons less subtle than indeterminism to explain why this resemblance is not exact. In our search for new kinds of regularity in the behaviour of matter, an unexpected irregularity is a hindrance rather than a help. In the second place, the investigation of human behaviour on scientific lines makes it clear that most of our actions, and in particular most of our moral choices, are rigidly determined.

A different criticism is being urged by Sir James Jeans in a series of papers and lectures.† It is essentially similar to Kelvin's argument about the age of the earth. But the time scale is enormously greater, since we now know that, in certain cases at least, matter can be transformed into energy. The argument runs somewhat as follows:—Certain physical processes are irreversible. If we have two cylinders, one full of compressed air and one empty, and connect them, one of two things will happen. If the connection is through a suitable machine, we can make the system do some work. If it is through a tube, the pressure is soon equalized, and when this is done the system can do no more work. The process is, in fact, irreversible. Now, irreversible processes like this are going on all round us. The radiation of heat from the sun is such a process. The source of energy in the sun is probably sufficient to last another million million years or so at a satisfactory rate, but it is not infinite. The same applies to all the other sources of "free energy" in the universe. It will ultimately "run down" to a condition

* *The Nature of the Physical World.*

† E.g., *Nature*, 1928, vol. 122, p. 689. It is also very clearly stated in his recent book, *The Universe Around Us*.

where the temperature of all parts of the universe will be the same. Most, if not all, of this energy will have been dissipated into starlight. A great deal, though very possibly not all of its present matter, will have been transformed into starlight; and the process will be irreversible. In a general way the trend of events can be described as an increase of randomness, which is technically called entropy. If we want to diminish the entropy of one part of the universe, as when we separate the iron and oxygen of iron ore, we can do it only by a still greater increase of entropy elsewhere, as when we allow coal and oxygen to unite in a blast furnace.

Working backwards in time, we find more and more of the starlight imprisoned in the matter of stars. We can think backwards in this way for a few million million years, but not for ever. There must have been an initial state in which the universe was, so to say, wound up, and such a state could not be reached from its present condition. Jeans provisionally equates the initial state with creation. Some unique event must be postulated (it is claimed) in the beginning of things, and he leans to a view of the universe not unlike that of the Deists, except that the breach in physical causation took place in a past remoter than our ancestors imagined. This is an unsatisfactory point of view, for, if the laws of physics were once abrogated, there is no reason why they should not be so again, and mediums and faith-healers may be defying them daily. A scientifically adequate theory of the universe must be able, in principle, to explain every state of it as due to a preceding state. It should picture it as having lasted forever, and capable of lasting forever as a going concern.

Four main lines of escape offer themselves from the argument from irreversibility to an uncaused event in the past. It has been suggested that while the stars are running down other objects—for example, gaseous nebulae—are “running up,” so that, taken as a whole, the universe has always been much as it is now. But attempts to give a physical account of the “running up” process have generally been regarded as failures. Moreover, the present state of the universe agrees very well with the view that it is running down. Thus the stars round us are not moving at random, nor yet according to very definite rules. They behave as if they were on the way from orderly motion towards randomness. Secondly, if the universe is spatially infinite, there is a possible line of escape, for somewhere in infinity indefinitely vast sources of energy can be postulated. But there is very strong reason to believe that the universe is not infinite.

The other two lines of escape postulate a reversal of the present tendencies in the universe. At present very large

aggregates of matter are impossible, because a very large star would burst as the result of its own heat production. But when the stars have cooled down their clinkers may be able to condense into larger masses. A sufficiently dense system of cold stars rotating round one another would, it is thought, be able to attract and capture vagrant starlight from outer space ; for we know that radiation is attracted by matter, though rather feebly. If this is true, the dissipated energy could perhaps be collected again, and a new cycle of stellar evolution begin. I do not think that the theory of general relativity has developed far enough to make a really adequate mathematical examination of this idea possible. We do not know, in particular, whether such an event would lead to a new cycle, or merely postpone the onset of the final condition.

The fourth idea is more fantastic, but perhaps more likely to be correct. Imagine the universe to have run down, the temperature being uniform, and all other available forms of energy converted into heat. Probably most of the existing matter would have blazed away into radiation. From the point of view of normal physics, nothing more could ever happen save a blind jostling of radiation and the surviving atoms leading to no appreciable temperature differences, and no motion of large masses. This is a short-sighted view. A resting liquid at uniform temperature appears to be homogeneous, but a small microscopical particle in it is constantly being jostled by neighbouring molecules, and occasionally picks up an unusually large amount of energy and darts across the field of the microscope. Similar phenomena occur in gases near the critical point. They are called fluctuations. The probability of any but a tiny fluctuation is extremely small. Yet no fluctuation, however great, is impossible. The pin's head of which I wrote earlier might spontaneously fly to pieces, using some of its heat energy in the process. But the probability of such an event is vastly less than that of the minute deviation from normality considered earlier.

Nevertheless, the fact remains that when a steady state is reached any fluctuation, however vast, has a finite probability. Hence, if the universe is finite spatially and contains a finite amount of matter and energy, then in the course of eternity fluctuations of every possible magnitude will occur. I have made* a rough calculation from data put forward by Jeans of the time which would be needed before a run-down universe got back to a distribution as improbable as the present as the result of mere chance fluctuation. The time is about $10^{10^{100}}$ years. Perhaps this is an exaggeration, for

* *Nature*, 1928, vol. 122, p. 808.

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recent work on stellar and nebular velocities suggests that the universe is not so large as I then assumed. It can, however,

hardly be less than 10^{80} years. The number in question is altogether inconceivably vast, although a good Christian would feel himself insulted by the suggestion that his life was limited to such a period. If we wanted to write it down in decimal notation, we should require a great many times more figures than there are atoms in the universe. But that number of years is just the same fraction of Eternity as a second or a century. If an event occurs, on an average, every 10^{100} years, it has already happened an infinite number of times, and will happen an infinite number more. During all but a fraction of eternity of this order of magnitude nothing definite occurs. But on a Materialistic view there is no one to be bored by it.

At this point I should like to defend myself against a class of critics who regard such ideas as infinity and eternity as nonsensical. When I say that an event has occurred an infinite number of times I mean that with each whole number, 1, 2, 3, and so on, we can relate one past occurrence of that event which is not already related, or labelled, with another number. This is not a very difficult conception, nor does it lead to contradictions.

If this view is correct, we are here as the result of an inconceivably improbable event, and we have no right to postulate it if any less improbable hypothesis will explain our presence. If there are other stars on which intelligent beings are wondering about their origin and destiny, a far smaller and therefore vastly more probable fluctuation would be enough to account for the existence of the human race. Now, according to the theory of its birth developed by Jeans, the solar system originated from the close approach of another star to the sun, which in consequence threw out a filament that condensed into the planets. So near an approach of two stars must be very rare, but not unique. Eddington has calculated that there are probably about 100,000 other planetary systems in the universe. Quite recently, however, Jeffreys* has criticized Jeans's theory. He concludes that it would not account for the rotation of the planets. A planet which did not rotate would have only one day per year, and would probably experience such variable temperatures as to make any complicated forms of life impossible. Jeffreys thinks that in order to account for the planetary rotations another star must actually have collided with our sun. The proba-

* *The Realist*, 1928, vol. i, number 3.



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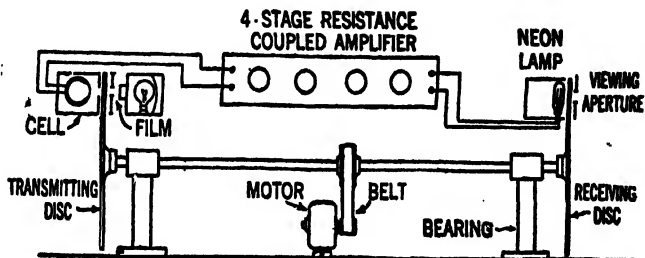
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bility of such an event is small compared with that of a tidal encounter, and on Jeffreys's theory it becomes fairly likely that our solar system, and perhaps our own planet, is the only abode of intelligent life in space. For, even if there are a few other solar systems, their planets may be unavailable for intelligent life on a variety of physical and chemical grounds. And life may originate only under very special circumstances. If this is correct, the fluctuation theory becomes plausible. We have not assumed a more improbable fluctuation than is necessary to account for our being there to marvel at its improbability. If the future progress of astronomy substantiates the uniqueness of our earth, the fluctuation theory will of course gain in likelihood.

We have seen, then, that there is no very valid reason to doubt that there will be material conditions suitable for the development of life like our own through a perhaps unimaginably small, but still finite, fraction of eternity—that is to say, through an infinite time. We do not know enough physics to say whether this means that events reoccur cyclically. If the number of possible configurations of matter and energy is finite, however large, then every configuration will occur and has occurred an infinite number of times. According to the classical physics, the number is not finite—for example, two particles may be at any distance from one another between one and two inches. But some modern developments suggest that only a finite but immense number of distances is possible.

However that may be, it appears probable that only a finite number of animal types is possible. The number is quite large. Let us consider the number of different varieties of one species of fly, *Drosophila melanogaster*, which could be made up by suitable crosses of the varieties at present in existence. There is not enough matter in all the known heavenly bodies, and probably not in the universe, to make one fly of each of the possible kinds simultaneously. The number of possible kinds of man is probably larger; the number of possible organisms less than a mile long is very much larger, but also finite. The reason for regarding the number of types as finite is as follows. Even if the number of possible configurations of living matter is infinite, a living creature acts so as to bring small disturbances in its structure back to its normal. Hence all the various possible types would be reduced by this physiological process to a number which, however large, is finite. Now, in the course of eternity any event with a finite probability must occur an infinite number of times. Hence every human type has occurred already, and will occur again. Of course, the particular kind of material structure called the human body would only be evolved in an infinitesimal fraction of those cycles in which

intelligent life occurs. But the fraction would be finite, and that is all that matters.

Now, if the nature of the mind is determined by that of the body (and I think that one may hold a view substantially equivalent to this without being a full-blown Materialist), it follows that every type of human mind has existed an infinite number of times, and will do so. If, then, the mind is determined by the body, Materialism promises something hardly to be distinguished from eternal life. A mind or soul of the same properties as my own has existed during an eternal time in the past, and will exist for an eternal time in the future. Of course, this time is broken up by enormous intervals of non-existence, but it is an infinite time. Such a view differs from the theory of reincarnation in two fundamental respects. In the first place, the mind, though the same in different lives, is new each time, and does not carry over any trace of memory or experience from one to the other. Secondly, there is no reason for supposing it to exist apart from the body of which it is an aspect.

Clearly the most debatable point in the above suggestion is the assumption of identity between two minds. This follows if atoms of the same species are entirely alike except for their relations to the environment. If each one is internally unique, it is obvious that a real physics is impossible. All that we know goes to support the view that there are no internal differences. If so, two similar sets of atoms should determine minds which can be distinguished only by their relations to their surroundings. I must confess that, to me, the prospect of eternal life without memory of my present presents no overwhelming attraction. But yet, if I had the choice between death and complete loss of memory to-morrow, I should choose the latter, if it did not entail mental derangement. Most others would, I think, agree with me; so I presume that continued existence without memory is generally felt to be better than nothing. And if one regards one's personality as possessing some value, there is a certain satisfaction in the thought that in eternity it will be able to develop in all possible environments, and to express itself in all the ways possible to it. Those who have died prematurely will be able, under other conditions, to live out complete lives. Our social organization of to-day is so rudimentary that one feels justified in hoping that our present lives are very poor samples. There is no physical reason, so far as we know, why our humanity should not continue for thousands, perhaps millions, of millions, of years more; and it is reasonable to hope that they will, on the whole, be happier than the present or past ages.

If, however, evolution continues, it is likely that in most

of our past and future lives you and I have been or will be relatively feeble-minded throwbacks among a more perfect humanity. If so, we shall probably be quite well treated. It is a consoling thought that, even if humanity lasts a million million years and devotes itself entirely to science and mathematics, there will be plenty of quite simple problems still unsolved. For example, there will not have been time and space enough to breed one each of all the theoretically possible varieties of *Drosophila melanogaster*, or to synthesize all the possible organic molecules of a molecular weight less than 10,000. So that I, at least, could find congenial occupations in a world of supermen.

• A corollary of the above ideas is that every two persons who meet in the present life have a finite possibility of meeting again, and will therefore do so an infinite number of times, in each case to be parted once more. I believe that they are a logical deduction from thoroughgoing Materialism; and to my own mind the most surprising thing about them is that they have not, to my knowledge, been made before. They are independent of the precise type of Materialism adopted. I have taken the word in its widest sense, to denote the view that all occurrences depend on phenomena obeying definite mathematical laws, which it is the business of physics to discover. It is quite unimportant whether we call our ultimate reality matter, electric charge, ψ -waves, mind-stuff, neutral stuff, or what not, provided that it obeys laws which can, in principle, be formulated mathematically.

While I think that the theory here put forward is the only logical outcome of Materialism, it may yet have a certain cogency for those who are not Materialists. Though an Agnostic, I am personally much attracted by a modified Hegelian view which regards mind as absolute, and finite minds as contingent, their actual behaviour being regulated by laws of the same general type as regulate other phenomena. On such a view there is nothing unique or permanent about the finite mind, and it may be expected to recur under suitable conditions. Nor is there any reason to doubt that the phenomenal world is eternal. Clearly, however, on such a hypothesis I cannot have so sure and certain a hope of eternal life as if I were a consistent Materialist! The only people who can take no interest in the possibilities which I have suggested are those who regard their souls as absolutely unique and individual. If Christianity is true, they will probably spend eternity in hell (many are called, but few are chosen). According to Buddhism, they have to look forward to a vast number of reincarnations, all, on a balance, unhappy. Some modern creeds purport to be more hopeful. Spiritualists speak of a bright future; but, to judge from

such communications as I have received from "spirits," the average spirit is a rather unpleasant type of imbecile. If they do not accept any revelation, it is hard to see what reasons they have to expect anything but annihilation. If, however, I am a natural phenomenon, I see no reason why I should not recur like other natural phenomena.

The speculation put forward in this essay will appear strange. I claim it is a rational speculation. It is put forward for criticism on rational grounds. I can only add that it grew in my mind during an honest endeavour to shape a view of the universe, and in particular of its remote past and future, which would be consistent with modern physical theory. At the same time, as a geneticist, I was studying the facts available as to the determination of human personality, and it appeared to me as a probable deduction from them that the number of possible personalities, though very large, is finite. If this is the case, and material conditions suitable for life have an infinite duration in time, the other conclusions seem to follow. If they are true, the universe is slightly, but not perhaps very much, better from the human point of view than had previously appeared.

THE TRIBUTE OF A SMILE

By ADAM GOWANS WHYTE

“**T**O-DAY there is no need to imprison those who preach against the State religion.”

When I came across this sentence some weeks ago, in a recent volume of political history, I paid it the tribute of a smile. And each time I recall it the smile buds again, with a tendency to blossom into a laugh. There is something so solemnly humorous in the thought of a State religion ever *needing* to imprison those who preached against it. Something, also, so touching in the faint air of melancholy over the passing of the need. Our author has so high an opinion of the State Church—as a *State* Church—that I suspect him of a secret regret that he cannot sentence a heretic to six months' hard labour. The modern tenderness towards those who destroy the sacred unity must seem to him a sign of degeneracy.

They order these things much better in the East. Habibullah Khan, who ousted King Amanullah, is determined to have no dissentients from the State religion—which is admiration of himself. He has decreed that any one who so much as mentions the name of his rival, Nadir Khan, shall be nailed to a public wall by his ears and subsequently blown from a gun. Some curiosity has been expressed about the reason for arranging the ingenious form of pillory when the real sentence is dissipation by high explosive, but the explanation is, I think, quite simple. Habibullah desires that the public shall be duly impressed by the majesty of the State religion, and he also wishes to give the sinner time to reflect on the enormity of his heresy before the process of corporeal disintegration releases his soul for the flight to Paradise.

This is not the only example of high seriousness which the East has recently given us. A schoolboy in Turkey murdered his aunt because she had been heretical enough to ride astride in defiance of customs which, being customs, possessed almost the sanctity of a State religion. Nothing quite so virile has occurred in the Occident since the days of the Spanish Inquisition; or, at least, since the burning of witches became, with the advance of so-called civilization,

unfashionable. It is therefore worth inquiring why the East, which is supposed to be barbarian, retains its active respect for religious traditions while we in the West evade our stern duty by feebly arguing that there is "no need" to imprison people who preach against the State religion.

Our author—I refrain from giving his name; he is a young man, and it would be cruel to blast a promising career by a public conviction of sentimentality—does his best to explain why all declared Nonconformists, Jews, Infidels, Heretics, Agnostics, Atheists, Freethinkers, and Rationalists are allowed to live outside His Majesty's gaols. "Their doing so [that is, preaching against the State religion] is not likely," he states, "to cause any breach of the peace." From this you are invited to infer that religious persecution, in which the rack and thumbscrew, the cell and the stake, were the chosen instruments, was always undertaken in order that good people should not be induced to quarrel in public. From this point of view the Inquisition was a kind of international peace movement, and the disciplinary measures against Nonconformists were a crude anticipation of modern police precautions against outbursts of *odium theologicum*.

It must be pleasant to live in such a state of illusion, and I hesitate to disturb a frame of mind which gives so rosy a hue to ecclesiastical history. Nevertheless, I feel that our author must go a step further and ask himself why preaching against the State religion or any other religion is not likely to cause a breach of the peace. If in Turkey a schoolboy should see fit to murder his aunt for riding astride, why should we in England take no notice when somebody declares in public that the sacred truth which actually receives the sanction of the State is not truth at all?

One explanation is that the Turks have no sense of humour; but this seems rather facile and superficial, besides demanding that we should credit the English, as a nation, with the full possession of that saving quality. We must look deeper. Clearly the Turkish schoolboy considered it really important that his aunt should ride side-saddle—more important, indeed, than that she should continue to exist. Consequently, and with admirable logic, he extinguished her. Contrast this vigorous and consistent action with our hesitation even to inflict a police fine on people who openly outrage our deepest convictions. Does it not indicate that these convictions have lost the intensity of a Turkish schoolboy's views on the correct method for a woman to sit upon a horse? Do we not, so lost are we, pay to this schoolboy's earnestness the tribute of a smile?

The same tribute is rapidly becoming the only one we pay to people and things once too awful to be mentioned

save in a peculiar, hushed tone. The Bible is, apart from its claim to be a sacred record, a profoundly serious book. From the first word of Genesis to the last of Revelation you will not discover anything which even remotely suggests a twinkle. Yet various characters in the solemn pageant have already passed into regions where humour disports itself. We do not invariably take Adam and Eve seriously, although their behaviour in the Garden of Eden had, according to the State religion, a profound effect upon the destinies, both now and through eternity, of every one of us. We laugh at Jonah, treating his adventures as hardly more worthy of submissive belief than the narratives of Munchausen. Solomon lends himself only too readily to the sportive levity of the modern mind ; and David himself, in certain aspects, does not escape. By his virtue, his technical knowledge of shipbuilding, and his broad zoological sympathies, Noah contrived to save the human race and most other living things at a critical stage in the world's history ; but this invaluable service does not save his family from figuring in the "comic strip" of a modern newspaper. The Prophets, both major and minor, who took themselves so desperately seriously as they set out to shake the universe, are now treated with condescension or—what is more significant—admired for the literary quality of their invective. Even St. Paul has come within the range of what I may call the "lower criticism" ; he has been irreverently compared with an advertising agent or a business organizer.

All these indispensable accessories of the State religion are, in short, moving slowly but steadily into the position occupied in our minds by the gods of ancient Greece and Rome. There was a time when these gods were taken seriously, when their activities had the same divine significance as the Song of Solomon had to the Scottish elders of the nineteenth century. Incredible as it may appear, the ancient Greek or Roman who poked fun at the mysteries was in just as much danger of summary execution as a European in the Middle Ages who openly questioned the doctrine of the Trinity, or as a Turkish aunt in modern times who dares to please herself about the disposition of her legs on a horse.

There is a world of instruction in this sidelight on human evolution. Mankind has given itself an endless amount of trouble, shed oceans of blood and multiplied the agonies of life, by taking seriously a crowd of things that were not worth taking seriously. Progress in well-being is to be measured, it appears, by the increasing number of things to which we can accord the tribute of a smile—indulgent, pitying, deprecating, or merely amused. When the Archbishop of Canterbury confesses to "a dullness of spirit, a languor of worship"

in many of our congregations; when other ecclesiastics deplore the increasing indifference to a faith which once launched a thousand Holy Wars, what are they doing but recording the result of a conquest by that true saviour of humanity—a sense of humour? The greatest gift bestowed by that sense is a comprehension of true values; and when that comprehension becomes general there are many things, now in regions not yet illumined by a smile, which will be translated to the happy fields of fantasy where Jupiter launches his thunderbolts and Venus pursues her immortal love affairs.

At this metamorphosis let not our Archbishops, Presidents of the Wesleyan Methodists, Chairmen of the Congregational Union, and others who deplore the changing thoughts of the people, be too sorely troubled. The more the world changes the more it is apt to be the same thing. As Prometheus remarks in Richard Garnett's delightful *The Twilight of the Gods*: "It has taken Man ages to assert himself, nor has he yet, it would seem, done more than enthrone a new idol in the place of the old." For a few generations to come there will still be plenty of worshippers for the idols erected by the dignitaries of the Church. The only reliable signs of progress are that the idols gradually become less brutal and more benign, while the number of people who are aware of their true character tends to increase as additions are made to the collection of discarded idols in the archives of history. The ultimate end of this process of improvement is, of course, that the last of the idols will be laughed out of existence, and men will be able to pursue their ideals without erecting idols to represent them and to furnish the war-cries of civil or uncivil war. Mankind will be truly civilized when it is able to discuss its ideals, and differ over them, without losing either good humour or the sense of humour.

THE INHERITANCE OF MENTAL CHARACTERS

By MORRIS GINSBERG, M.A., D.LITT.

THAT mental traits, whether of intelligence, temperament, or character, have an innate basis is a view which is now very generally accepted. The mind does not start as a *tabula rasa*, but is endowed at birth with potentialities, which no doubt require a suitable environment for their expression or actualization, but which nevertheless set a limit to the attainments of the individual, in the sense that there are certain points beyond which he cannot go no matter how favourable the environment, and in the further sense that the potentialities act selectively upon the environment, so that in similar environments some individuals will respond to certain stimuli, while others will remain indifferent to them. So much may be safely said. Not uncommonly, however, we meet with statements both in popular and scientific writings which go a good deal beyond this. Thus, for example, we may be told that mental differences between individuals are due only in a minor degree to differences in the environment, whether physical or social, and are determined for the greater part by inherited factors, or that physical and mental characters are inherited with the same intensity and obey the same laws of transmission. Is there any warrant for such statements? What do we really know about the laws of the inheritance of mental characters?

I propose to discuss the evidence as briefly as possible under the following heads:—A, Pathological traits—for example, feeble-mindedness and insanity. B, Exceptional abilities or talents; specific abilities. C, Normal characters of intelligence, temperament, and character.

A. Feeble-mindedness is not so much a medical as a legal or social category, indicating an incapacity of adaptation to a normal environment as judged by certain criteria, which undoubtedly vary considerably and are in the nature of the case more or less arbitrary. It is a condition of suspension of mental development, either congenital or early acquired. In diagnosis it is now usual to employ mental tests, but careful workers take into consideration not only the intelligence level, but also emotional and volitional traits, physical characteristics, and general behaviour. Feeble-mindedness is widely held to be largely hereditary in nature. Some authorities assert that two-thirds of all the cases are so determined. The evidence upon which assertions of this order are based is derived generally from statistical studies, showing that in a large proportion of the cases studied the parents or the siblings of the feeble-minded are also feeble-minded. It is, of course, recognized that mental deficientes are not a unitary type, and that some forms

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of deficiency at any rate are due to an arrest of development caused by various environmental agencies. But it is maintained on strong evidence that many forms are familial in incidence, and these, it is urged, are due to heredity. The problem is whether familial incidence is adequate proof of heredity. Here authorities are divided.

The majority of the studies so far made do not provide control groups for comparison, and there are considerable differences of opinion as to the proportion of feeble-minded in the general population. Even in the cases of family pedigrees, where the proportion of deficient is obviously greater than would be expected from what is known of the general distribution of feeble-mindedness, the studies so far made do not appear to allow sufficiently for the possible influence of a common bad environment. Professor Morgan says that "it is quite probable that there are extraneous factors involved in such pedigrees" (*Evolution and Genetics*, p. 201). A still more formidable point is that, in the opinion of many authorities, even well-authenticated cases of familial amentia are not true germinal variations, but are caused by an injury to the germ plasm, which may affect families for a few generations without being truly hereditary in character. In refutation of such objections family histories are often quoted showing the recurrence of feeble-mindedness during several generations. It is claimed, moreover, that the study of such family records strongly suggests that in many cases the defect is transmitted in an orderly manner indicative of a mechanism and in harmony with established laws of hereditary transmission. Thus, for example, Goddard concludes on the basis of elaborate studies that feeble-mindedness behaves as a recessive Mendelian unit character. From other investigations—those of Reiter and Osthoff—it would appear that it sometimes acts as a dominant and sometimes as a recessive, which is conceivable on the assumption, in itself reasonable, that there are different forms of inherited feeble-mindedness.

These and similar conclusions are often quoted as established truths, but the evidence upon which they rest is extremely dubious and very far from being accepted by many competent students. In the first place, the data, though generally reliable in regard to the children studied in the first instance, in view of the fact that in most recent inquiries they are carefully tested, are far from being trustworthy in regard to the relatives, particularly of past generations, where the evidence is often mere hearsay and the diagnosis of no medical value. In regard to Goddard's inquiry, it has been pointed out that, apart from the doubtful value of much of the evidence relating to ascendants, there are 696 cases out of a total of 1,752 which for various reasons remain unclassified. No one can tell whether the ratio of normals to defectives alleged to be found in the classified group would have been confirmed or not had it been possible to include this comparatively large unclassified group. (Cf. Ellis, *The Psychology of Individual Differences*, p. 334.) In the second place, the line dividing the feeble-minded from the normal is for many forms of the defect quite arbitrary, and students of the subject will be familiar with the frequent changes in the standards employed. In the earlier inquiries the lower limit of normality appears to have been much too high. In

Goddard's inquiry adults testing twelve years or less were regarded as feeble-minded. Now, the lower limit is taken to be ten or nine years. Quite obviously, this is a serious matter when Mendelian ratios are being calculated. Indeed, the graded character of mental ability and the known facts of the distribution of intelligence make it extremely doubtful whether levels of intelligence as expressed in intelligence quotients can be rightly regarded or treated as units likely to segregate in inheritance. Finally, if we bear in mind the undisputed fact that feeble-mindedness may in many cases be brought about by unfavourable conditions affecting the germ plasm or the foetus *in utero*, statistical results which do not discriminate adequately between the different forms of mental deficiency become still more questionable. The environmentally induced forms ought clearly not to be included in the calculation of Mendelian ratios; but in most cases it is quite impossible, from the nature of the methods employed, to obtain the necessary information. Moreover, many of the studies so far made lump together in their tables all sorts of mental diseases, and even irregularities of behaviour, as judged by some arbitrary standard, and these are then taken as hereditarily equivalent—a procedure which implies a theory of polymorphic inheritance of very questionable validity. In short, whatever our ultimate view may be as to the wider problem of the inheritance of mental deficiency, it is safe to say that it has so far not been proved to behave as a Mendelian unit. It may be well perhaps to quote in support the opinions of a geneticist and a psychiatrist. Professor T. H. Morgan says: "Until some more satisfactory definition can be given as to where feeble-mindedness begins and ends, and until it has been determined how many and what internal physical defects may produce a general condition of this sort, and until it has been determined to what extent feeble-mindedness is due to syphilis, it is extravagant to pretend that there is a single Mendelian factor for this condition" (*Evolution and Genetics*, p. 201). Dr. A. Myerson concludes, after a careful survey, that "the trend of opinion is certainly away from the conception of feeble-mindedness as a unitary character. Most writers are firmly convinced that there is a familial transference of certain types of feeble-mindedness, and there is very distinctly appearing the view that these familial cases originate in injury to the germ plasm" (*The Inheritance of Mental Diseases*, p. 85).

The evidence for the inheritance of the insanities is at first sight more impressive, but closer investigation reveals amazing differences of opinion among authorities, showing that what is really known about it amounts to very little. Among the better documented forms are those of manic depressive and dementia præcox. For the former Kraepelin gives a hereditary incidence of 80 per cent; for the latter 53 per cent. It is to be noted that most of the investigators give no control groups for comparison, nor is the distribution of these diseases in the general population known with any accuracy. It is becoming clear, moreover, that these groups of mental disease are not likely to be idiotypical unities, and that a great deal of classification and psychological analysis of symptoms will be required before specific inheritance, at any rate, can be demonstrated. Recent workers, again, are suggesting psychogenic

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theories of mental disease which bid fair to revolutionize the older views of the causes involved. Kraepelin himself says that the aetiology of dementia præcox is at present surrounded by an impenetrable fog. Myerson says: "We have established no pathology for manic depressive or dementia præcox. We have no absolute criteria for their diagnosis. We do not know whether they are a dozen characters rolled into one or whether they are mere diseases" (*loc. cit.*, p. 284). In regard to heredity, some writers deny that heredity has anything to do with it. (Cf. Dr. James Kerr, *The Fundamentals of School Health*, p. 411.) Others think that the familial form is found frequently in the catatonic group, while in the paranoid group it is met with less often. The large percentages obtained for manic depressive *may* possibly be due, as MacCurdy suggests (*The Psychology of Emotion*, p. 14), to the methods by which information is obtained. As to the applicability of Mendelian laws the best authorities are extremely cautious. Hoffmann says of schizophrenia that Mendelian notions can be applied only with the greatest caution; and Rudin, who has studied large numbers of cases, will commit himself only to the negative statement that as yet no one has a right to say that Mendelian laws do not apply to mental diseases. Even with regard to the main problems of heredity in general we frequently find in psychiatry remarkable changes of front. For example, epilepsy used to be attributed to heredity to the extent of one-third of all the cases. But now authorities are very sceptical. French writers assign only a minimal rôle to heredity (cf. Poyer, *Les Problèmes Généraux de l'Hérédité Psychologique*, p. 137), and Myerson tells us that the hereditary factor has not been proved to exist (p. 72). Upon the whole question we may again quote Morgan: "At best one can say, perhaps, that in certain strains, and perhaps under certain conditions, mental disorders appear; but so long as neither the physiological background of insanity nor the external agents that are contributory are known its genetic relations must remain obscure" (*Evolution and Genetics*, p. 203). We may conclude that, though it is well established that a good deal of insanity is familial in incidence, very little appears to be known with regard to the intensity of inheritance or the relative rôle of inborn and environmental factors.

B. In the study of the inheritance of exceptional abilities or talents Galton's famous work on *Hereditary Genius* is still regarded by many as fundamental. Essentially his method consisted in showing that among the relatives of eminent men, such as judges, statesmen, literary men, scientists, artists, and divines, there were found individuals who have attained distinction, in numbers far larger than was to be expected on the assumption that superiority or distinction was distributed in the population regardless of inheritance. Thus the 300 families which he studied contained 977 eminent men, of whom 415 were of especial distinction. He showed that on the average 100 famous men had 31 eminent fathers, 41 eminent brothers, 48 eminent sons, 17 eminent grandfathers, and 14 eminent grandsons. These figures have often been quoted, but the really important figures are those given by Galton in column E of his table, which takes into consideration the total number into whose relationships he inquired, including those famous men who

had no eminent relations. The figures given for the judges are : fathers 9.1 ; brothers 8.2 ; sons 12.6 (p. 55). For the other categories he does not provide tables, but suggests a method for obtaining column E (p. 312) on certain assumptions. This gives as the chance of kinsmen of illustrious men attaining eminence as 15.5 to 100 in the case of fathers, 13.5 in the case of brothers, and 24 in the case of sons. In other words, the chance of the father is 1 to 6 ; of each brother 1 to 7 ; of each son 1 to 4. From this he concludes that qualities making for eminence run in families. He further claims to show that the influence of heredity is closely related to the degree of kinship, the intensity of inheritance diminishing in a regular manner at each successive remove, whether by descent or collaterally. Thus in the second grade the chances are of each grandfather 1 to 25 ; of each uncle 1 to 40 ; of each grandson 1 to 29. In the third grade the chance of each member is about 1 to 200, except in the case of first cousins, when it is 1 to 100. It will be remembered that this second result came to be formulated more precisely in the law of ancestral inheritance.

Of the many difficulties inherent in this procedure attention is here drawn only to the more important. Firstly, Galton's estimate of the proportion of eminent men is based upon a consideration of the number of men who attain success as judged by the attention they secure in dictionaries of biography, obituary notices in the *Times*, and the like. Those who are familiar with the methods by which these matters are managed will not be greatly impressed with such criteria of inborn superiority. It is to be remembered, further, that dictionaries of biography are apt to concentrate on distinction in the world of literature, science, and politics to the comparative neglect of other spheres of activity, in which a great deal of ability may yet exist which thus fails to get recorded. In the second place, the fact that the relatives of successful men have a greater chance of attaining eminence than others is of course susceptible of explanation in environmental terms. Galton dismisses such explanations on the ground that genius is irrepressible and will secure expression despite untoward circumstances. His arguments, though eloquent and persuasive, are not convincing. The investigations of Odin, de Candolle, and Cattell have shown, by methods similar to those employed by Galton, the importance of suitable environmental conditions in the expression or realization of faculty. Finally, perhaps the most important objections to taking Galton's results as a measure of the intensity of inheritance may be derived from the teaching of modern genetics as it has developed since his work. Johannsen has convincingly shown that Galton's laws are not strictly biological laws, but merely statistical generalizations relating to outward resemblances in highly mixed populations, from which but little can be inferred as to actual inborn constitution without a great deal of further analysis.

Galton himself did not attempt to analyse in any detail the constituent elements which go to the making of the complex "talents" whose distribution he investigated. Since his time it has become increasingly clear that talents are very complex "constellations" of numerous elements united and correlated into wholes. It seems probable that in most cases the correlation is the result of

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repeated trial and not part of the original endowment, and it is possible that in unfavourable circumstances the requisite combination or correlation is not achieved. It may be added that the whole question of the relation between special and general factors in mentality is at present hotly debated. There would appear to be no satisfactory evidence of the inheritance of special abilities when they have been investigated by modern methods. (Cf. Starch, *Educational Psychology*, p. 83 seq., and Hazlitt, *Ability*, ch. v.)

C. We may now turn to some representative investigations into the inheritance of normal mental characters. Perhaps the most influential has been that conducted by Professor Karl Pearson. In 1904 he obtained by means of a questionnaire the ratings of teachers of about 3,000–4,000 siblings in various English schools in regard to certain physical qualities, such as eye colour, hair form, cephalic index, and a number of mental qualities—viz., vivacity, assertiveness, introspection, popularity, conscientiousness, temper, ability, and handwriting. He found that siblings resembled one another in respect of these qualities to an extent which he expresses mathematically by a mean coefficient of correlation of about .5. This figure has since been widely taken as a measure of heredity, and has been used as a starting-point for further deductions, relating, for example, to the influence of the environment. (Cf. Carr-Saunders, *Eugenics*, p. 88.) There are, however, various difficulties which I will briefly discuss. To begin with, the data in respect of the mental qualities were derived from the subjective estimates of teachers. It has been shown experimentally that such estimates are subject to errors of surprising magnitude. (Cf. Professor Spearman, *Eugenics Review*, 1915, p. 230.) This is especially important in view of the complexity of some of the qualities under investigation, and the probability that the standards employed may have differed widely from place to place. Moreover, the figure .5 measures resemblance; but this, Professor Pearson argues, cannot be explained as due to similarity in the environment in which brothers and sisters are brought up, on the ground that a similar figure is obtained in respect of certain physical qualities, such as eye colour in which environmental influence is excluded. "If the environmental influence is the same in the two cases it is insensible, for it cannot influence eye colour. If it is not the same, then it would be a most marvellous thing that, with varying degrees of inheritance, some mysterious force always modifies the extent of home influence until the resemblance of brothers and sisters is brought sensibly up to the same intensity." May we not reasonably invert this argument and ask whether it is not a marvellous thing that, if the figure .5 really expresses the intensity of hereditary factors, it should turn out to be the same for definitely measurable qualities like head height and vaguer and more complex qualities like health, the same for eye colour and intelligence, and within the range of mental characters for qualities of such varying complexity as conscientiousness and ability, introspection and popularity? Other investigators, it may be added, find by no means the same amount of resemblance in siblings in respect of emotional or temperamental traits as they do in respect of intelligence; and, though the differences in the results may be due to defects in

methods of testing, yet it would seem on the whole very improbable that subjective estimates of outward resemblance in respect of qualities so complex and so varied in nature should in all cases have hit upon the hereditary factors involved.

Without pursuing these difficulties any further, we may turn to studies of the resemblance between siblings which have been made on the basis of mental tests instead of teachers' estimates. There is now quite a large number of such investigations, and owing to the different tests employed their results are difficult to compare. Miss Elderton, using Dr. Kate Gordon's material, arrives at a coefficient of $\cdot467$. In another inquiry she gives a coefficient of $\cdot669$ for one school and $\cdot394$ for another. Pintner, using six different tests, gives a coefficient of $\cdot22$. Thorndike, with three different tests, gives $\cdot29$, $\cdot30$, and $\cdot32$. Starch, employing various tests, gets an average of $\cdot42$. Miss Hildreth's correlations vary from $\cdot27$ to $\cdot68$. Mr. R. A. Davis obtains $\cdot24$ to $\cdot54$ with the Dearborn tests and $\cdot15$ to $\cdot55$ with the Haggerty tests. Generally the coefficients for pairs of unrelated children cluster round zero. The resemblance in mental qualities between siblings appears thus well established by these investigations, but they do not appear to have substantiated the claim that there is a constant correlation of $\cdot5$, and they leave quite undecided the question as to whether the resemblance is due to heredity or to similarity in home and other environmental conditions. To overcome this last difficulty various devices have been employed by students. Here reference can be made to only some of the more important. Thus the resemblance in intelligence of siblings brought up in orphanages has been studied with the object of eliminating differences in home environment, but in most studies so far reported the children did not spend the earlier years of their lives in the institution, and it is arguable that it is just those years that are of the greatest significance in influencing development. Of greater importance, perhaps, are the studies that have been made of the mentality of twins. It has been shown that they resemble one another to a much higher degree than do other fraternal pairs. Thorndike tested fifty pairs of twins, and found a coefficient ranging from $\cdot70$ to $\cdot90$. Merriman, in an extensive investigation, finds a coefficient of about $\cdot80$. Twins that are physically similar resemble one another more closely in intelligence than do other twins. Like-sex pairs resemble another more closely than unlike-sex pairs, whose degree of similarity approaches that of ordinary siblings. The following results may be quoted in illustration: For like-sex pairs Merriman finds a coefficient of $\cdot84$; Wingfield gives $\cdot82$ and Lauterbach $\cdot57$ for all mental traits, and $\cdot77$ for intelligence. For unlike-sex pairs the same investigators give $\cdot59$, $\cdot59$, $\cdot33$, and $\cdot56$ respectively. The facts suggest that the increasing degree of resemblance is closely related to increasing degree of genetic affinity.

Recently several investigations, more or less successful, have been made into the inheritance of qualities of temperament and character. Of these the most interesting perhaps are those of Hoffmann, who bases his results on clinical experience and on detailed and intensive analysis of family histories. He has sought tentatively to apply Mendelian ideas to his material. But his results

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and those of others working on similar lines must at best be regarded as very provisional. There are well nigh overwhelming difficulties in such investigations. The existence of mental characters has to be inferred from outward behaviour, but the motivation of acts is extremely complex, and the same outward behaviour may be due to quite different motivating influences in different cases. For example, "timid" behaviour may be due in one case to excessive development of innate fear; but it may also be the result of inhibitions or a feeling of inferiority due to the particular history of the individual. In the second place, there is as yet no good working classification of qualities of temperament and character, and very little knowledge of the relation of the various qualities to one another, nor any agreement as to which are to be regarded as primary and which as derivative. How, for example, are sociability and intolerance related to the feeling of inferiority? How are qualities of temperament related to intelligence? Does it not often happen that when the need for self-expression, hitherto inadequate, receives satisfaction, intolerant and unsociable individuals become or appear sociable and tolerant? In the third place, the whole notion of mental units is extremely difficult to interpret and to relate to the underlying unity of personality. It is hardly credible that the complex qualities so far studied can behave as Mendelian units, and psychological analysis will have to advance a great deal before the methods of genetics can be profitably applied in this field. It remains to be added that so far no working hypothesis has been suggested of the way in which the inheritance of mental characters is to be conceived. It is true that heredity is in any case a mystery. The history of genetic theories in recent times shows that the factorial hypothesis, which at one time seemed straightforward, has had to be supplemented by a host of subsidiary hypotheses, such as polymeric inheritance, incomplete dominance, variable valency of factors, linkage and repulsion of factors and the like, to a degree which strongly suggests that the time is perhaps ripe for a complete revision of the whole theory. But the difficulties are vastly enhanced when the conception of factorial units is applied to mental qualities. The notion of psychical genes resident in the germ cells would seem to imply a mechanizing and atomizing of the mind hardly in harmony with the teaching of modern psychology.

Upon the whole, we may conclude that the cumulative effect of the evidence is to suggest that heredity plays a rôle in determining individual differences in mental characters, even though we must insist with T. H. Morgan (*Evolution and Genetics*, p. 206) that at present there is "no real scientific evidence of the kind that we are familiar with in other animals and plants." Allowance must of course be made for the inevitable difficulties of investigation when human material is in question. But this must not obscure the plain fact that as yet there is no accurate quantitative knowledge of the laws governing the inheritance of mental traits, nor any plausible hypothesis of the manner in which such inheritance is to be interpreted. For the claims of those who pretend to measure with precision the relative rôle of inborn and environmental factors in mental development there appears to be no scientific warrant whatever.

IS HUMAN IMMORTALITY PROBABLE OR INDISPENSABLE ?

By PROFESSOR J. W. A. HICKSON

DURING the last two years the discussion of the question whether individual human consciousness is eternal has been carried on quite actively in the English-speaking world. Physicists, notably Sir Oliver Lodge, have not been lacking to maintain that human immortality is more than probable—a belief which Materialists regard as affording a characteristic measure of human credulity. What is the state of evidence in this matter?

Whoever has lost consciousness, as has the writer, through a blow on the head or through an anæsthetic realizes that awareness of existence depends on physical conditions. Exacter knowledge discloses that these are in the nervous system. Experiment shows that chemical changes in that system and its central organ, the brain, will modify or even abolish consciousness. Support for this belief is obtainable from daily observation. One sees human beings changed by the taking of alcohol, or even strong tea. The mind of an idiotic cretin can be restored to normality by doses of extract of thyroid gland. What would have survived if the glandular extract had not been given? Human life disappears if a supply of oxygen be withheld; and without life there is no consciousness. The proposition that consciousness, as we know it, is not known to exist apart from a nervous system and brain, and varies in degree and quality with variations in that system, is as well established to-day as any other proposition of experimental science.

And yet one is asked by Sir Oliver Lodge and others to believe either that a human mind continues to exist apart from a nervous system (for this obviously is destroyed), or will be miraculously provided with a new one; for there is no reason for postulating an immaterial essence to account for the life of man that does not equally apply to living amœba.

There are different sets of grounds on which one is asked to believe this most improbable hypothesis. They can for the purposes of this essay be grouped under three main heads—religious, quasi-scientific, and philosophical, including metaphysical and ethical arguments.

(1) Many Christians, as such, believe in the continuance of their minds after the death of their bodies, either on the authority of the Church or on the authority of the Bible—in particular the utterances of Jesus. Like Sir Oliver Lodge, their mode of thought is dualistic: they believe that at death an immaterial and indes-

tractible essence leaves the body.* But, since the Church and the Bible have taught doctrines that have been shown to be false, this sort of authority is not convincing to students of science. Jesus was assuredly not infallible. Witness his belief in the approaching end of the world, and that madness was due to possession by devils. He was evidently unaware of the close relation between mind and body. His belief in immortality and damnation was inherited.

Let it not be retorted that science is not infallible, or that its theories are constantly undergoing change. This would overlook the fact that science supplies the method by which its own theories can be tested and are modified, and thus the advance of knowledge is promoted. Moreover, many of these changes represent a deeper generalization, in which a less extensive one is incorporated and thereby corrected.

It has sometimes been declared that men have always believed in immortality. Even if the statement were true, it would afford no rational ground for believing it. But it is a wild and ludicrous statement in view of the fact that the earlier books of the Bible, although full of religion and ethics, are not interested in human survival; that a religion like Buddhism holds existence to be an evil, and that a great teacher like Socrates maintained a sceptical attitude towards it. It was not universally held by Greek thinkers. Philosophers of the calibre of Spinoza and Hume placed no value on it. It is interesting to notice that some British officers reported of their men during the World War that, while the majority seemed to believe in a God, most of them regarded physical death as the end. This appears to be the present trend among most educated persons. To the interesting questionnaire sent out some ten years ago by Professor Leuba the great majority of leading psychologists, who are presumably more entitled to a judgment on this question than are physicists, answered negatively regarding belief in immortality. Since Hume's great *Dialogue on Natural Religion* it has been clear that belief in a God and a belief in immortality are not necessarily inter-connected. A Deity, if existent, may not have been willing to bestow eternal life on human beings, or, even if willing, may not have been able to do so.

(2) The quasi-scientific arguments are for the most part those of the Spiritists. They are based on evidence which appeals to some scientific minds, because it purports to be experimental. These scientists, mostly physicists (nearly all psychologists of note being sceptical), appear not to be disturbed by the fact that the alleged evidence has been obtained by methods and under conditions quite different from those which they themselves consider necessary to apply in the physical laboratory. Much of it has been shown to involve fraud; most of it proves nothing. It has not given verifiable information, which could not have been known either directly or indirectly to, or could not have been surmised by, any medium or

* "Forty hours after a man is legally dead the coats of his arteries may still manifest signs of life. If death is due, as is supposed by Sir Oliver Lodge, to the escape of an immaterial spirit, we should expect the exodus to be instantaneous, whereas we find it to be piecemeal."—Sir Arthur Keith, in *Darwinism and What it Implies*, p. 26. Strange also that such a spirit requires air and food!

sitter at a séance. It has never been shown that the communicating consciousness of a departed human is independent of matter (or energy). The condition of mind reflected in the communications has usually been one of decline. Great literary figures have spoken ungrammatically; eminent mathematicians seem to have forgotten the elements of the science, which the mediums presumably do not know. The accounts of the future life given by the alleged discarnate spirits vary with the country in which they are given forth. For the most part they appear to reflect the medium's own views, which are of no more value than those of any one else. The limitations of the supposed spirits seem to be just those of the various mediums. No wonder that religious people have in general shown little interest in those performances.

(3) The philosophical arguments urged on behalf of a future life are numerous, and only a few of the most important ones can be referred to here.

The arguments that have been employed by metaphysics to show that the soul is eternal and indestructible would equally well prove that it existed from eternity, before one's birth; and of this there is no consciousness. Moreover, they all involve the assumption of an idealistic theory of the world, the truth of which is not evident. In addition to this, modern psychology knows nothing of a soul in the sense of a substantial entity. Its subject-matter is states or evanescent events, not unchanging substances or permanent entities. Consciousness, as we know it, is the resultant of a very complex organization of units of energy; and when this is disintegrated there is no escape from the conclusion that the particular consciousness ceases also.

But certain scientists with idealistic propensities have recently urged that if, as appears to be well established, physical energy is indestructible, how much more should this not hold true of mind, which is of much greater importance in the universe? Without discussing the relative importance of mind and energy, it is sufficient to point out that the different concrete aggregations of energy are not in themselves persistent or indestructible, any more than are the waves of the sea with regard to its total mass. The individual waves fluctuate and disappear, and new forms are continually arising. Similarly, the particular consciousnesses are constantly ceasing and also emerging anew. Daily illustrations are supplied by cases of dreamless sleep.

One of the most popular of the moral arguments on behalf of a future life has been that justice demands it in order that the ills of this life shall eventually be rectified, wickedness punished, and virtue rewarded. This assumes that the universe is ordered according to human concepts of justice. But the part of it we know is not so governed. Where, then, is the ground for supposing another world with quite different qualities from those we perceive? If, on the contrary, there is justice in this life, then another life is not required. It has been urged that the very desire for immortality renders the belief probable. Apart from the fact that to-day this desire is by no means universal among the educated, this argument is no stronger than one which maintained that the instinct of hunger guaranteed its own satisfaction.

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A sentimental argument which carries weight even with the educated is no stronger than the foregoing. It is based on the desire for re-union with beloved ones, the wish "to heal wounds" and to resume broken relationships. But, on the other hand, there are thousands who want no renewal of past unions, and perhaps millions who hope never to see again those through whose wickedness they have suffered in this life. In any case, to make one's own hopes and griefs a ground for a belief in the constitution of the universe discloses an utter failure to grasp the total problem involved. To the plaint of those who declare that they cannot get on without a belief, which is at least improbable, F. H. Bradley retorted some years ago that it would be well if such a species disappeared and gave place to one better adapted to the conditions of existence. A general immortality would be quite irrational, because morally unjustifiable. Indeed, the belief in immortality becomes the less credible when one considers the character of some of the believers.

In the long run, little good is done by constructing baseless beliefs about the universe. A strong case could be made out for the thesis that belief in a future life has on the whole caused suffering and evil to humanity. So long as it was believed that epidemics were punishments for sin and could be mitigated by prayers, they continued; but after it was shown that they were caused by microbes they tended to cease. The period during which belief in immortality was strongest—i.e., least questioned in Europe—coincides with the period of the lowest social, if not private, morality. This constitutes an historical argument against the oft-repeated assertion, from theological quarters, that this belief is indispensable for ethics.*

If people would devote the energy which they at present spend in preparing for a future life in helping to improve the present one by spreading knowledge, by promoting art, and in preventing war and disease, they could make things much more satisfactory for themselves and other people; and if people were happier in this life they would let the future take care of itself. "If there is another life after this one," declared Socrates humorously at his trial, "then I shall just continue to discuss matters and enlighten my fellow beings there, and perhaps they will not put me to death on this account." The wise man, said Spinoza, does not meditate on death, but on how to live.

* The Kantian argument, that without endless progress, for which immortality is postulated, perfection—that is, the realization of the moral ideal—is impossible, can be met with the question: How with endless progress can it be realized? Apart from this, is finite existence compatible with perfection?

WHAT IS PROGRESS ?

By ROBERT ARCH

IT has become a truism that the notion of progress is modern. To the ancients such a notion was unknown : the growth of civilization presented itself to their minds as a descent, or, as we might say, a "rake's progress" from a primitive golden age to the iron age in which poets and philosophers reflected and suffered. The idea of progress was equally foreign to the Jews and Christians : the Messianic visions of the one and the "plan of salvation" of the other were cataclysmic, and presupposed not a progressing but a steadily worsening world, to be finally destroyed by a sudden Divine intervention. This conception dominated the Middle Ages. It was not until after the Renaissance that belief in mundane improvement took root, not until the eighteenth century that it found wide acceptance, and not until the nineteenth century that the much more daring and precarious conception of *inevitable* progress arose.

Progress being obviously a relative term, its implications are bound to be uncertain until a satisfactory definition is attained of the end in view. From the Renaissance to the eighteenth century the aim of progressive minds was to raise society to the intellectual and civic level which they believed to have been attained in antiquity. There was no doctrine here of inevitable progress ; evidently, in order to require raising to its former level, civilization must have sunk during the Dark Ages. The aim was at any rate clear and defensible. It was manifest to the men of the Renaissance that antiquity had possessed much knowledge which had been lost, and which it was desirable to recover ; and, as people in general more or less desire knowledge, the theorem carried conviction. Again, it was manifest to the men of the eighteenth century that antiquity had possessed free institutions which had been lost, and which it was desirable to recover ; and, as people suffering from arbitrary rule and unjust privilege more or less desire liberty and justice, the theorem again carried conviction.

The nineteenth century, while introducing the idea of inevitable progress and professing to give it a scientific basis, actually rendered the whole conception of progress vague and its validity disputable. That conception became a commonplace after the Industrial Revolution. Labour-saving appliances had come into being as a result of the application of science to industry, and had led to a rapid increase in aggregate wealth. As most people desire wealth even more than they desire knowledge, liberty, or justice, the sense of progress became overwhelming ; and, as no reason appeared why the application of science to industry should ever cease, progress

came to be regarded as inevitable. The Darwinian theory of evolution, which explained the prevalence of complex and highly differentiated organisms by their superior fitness to survive, seemed to point to progress as inherent in the nature of things; and by the third quarter of the nineteenth century the doctrine of its inevitability was generally received both by advanced thinkers and by men of the world. They forgot that "fitness," in the Darwinian scheme, did not necessarily connote any other value than simple survival value, and that the superior adaptation which produced man equally produced the tapeworm and the plague bacillus.

In addition to this flaw in the argument, the theory of inevitable progress involved a loss of clarity in definition. Progress had originally meant simply the diffusion of something admittedly desirable, such as knowledge, liberty, justice, or wealth. But to use the doctrine of evolution as evidence of the inevitability of progress is to assume that complexity and differentiation of structure are necessarily good. This assumption is rendered easy by the fact that in industry, the domain where progress is most obvious to the man in the street, increased productivity *does* as a rule involve bigger business units and minuter division of labour. Size and complexity, however, though possibly necessary as means to desirable ends, are not obviously desirable in themselves; and to equate them with progress, and use their assumed inevitability as an argument for the inevitability of the latter, is to invite contradiction. It has been pointed out that the increase in aggregate wealth due to mechanical inventions is not always accompanied by a fairer distribution; that the application of science to industry, which led to that increase, also led to the production of improved engines of destruction which (as the Great War demonstrated) may easily put a period to "progress" and civilization too; that, if complexity and differentiation are the test, there is no evidence that modern man has a bigger or more convoluted brain than his Cromagnon ancestor; in short, it can, by any competent devil's advocate, be made to appear questionable whether, taking history as a whole, man has progressed at all, and absolutely unwarranted to assume that he must continue to do so.

It is impossible to answer this argument unless we get back to a clear conception of what progress means. We can only do this by falling back on the signification of the term before it became confused by the misapplication of Darwinism—viz., the increase of whatever is desirable in itself and the decrease of whatever is undesirable in itself. That signification, however, will still lack precision unless we further define the desirable and the undesirable. I propose to define the desirable in itself as happiness, and the undesirable in itself as unhappiness or misery.

This definition, of course, is exposed to all the time-honoured objections which have been urged against Hedonism or Utilitarianism. It may be argued that this is a selfish philosophy. This is simply to misunderstand the definition; the *summum bonum* is not defined as exclusively *your* or *my* happiness, or *your* or *my* freedom from misery. *Any one's* happiness, so far as it goes, is good, and *any one's* misery, so far as it goes, is evil.

Or it may be argued that this philosophy represents a low ideal,

ignores the difference between higher and lower pleasures, and is fit for pigs rather than men. But why do we denominate some pleasures "high" and others "low"? Partly because only individuals of high sensibility or intelligence are capable of the former class of pleasure; but also, I submit, because those pleasures which are styled "low" are found by experience to be attended, as a rule, by unpleasant reactions, while those styled "high" can be pursued continuously without such reactions. A carouse is apt to be followed by a headache; the study of mathematics, on the other hand, can be prosecuted without headaches by those capable of it. Since our definition of the good in itself involves not only pleasure but freedom from pain, those pleasures which involve no suffering any one must, without any recourse to mystical or dogmatic considerations, be declared better than those which involve suffering. No pleasure, however, can without a contradiction in terms be pronounced bad except by reason of the suffering which it may entail. Puritanism has its roots in theological taboos, not in reason.

Lastly, it is urged that Hedonism is unworkable, as we have no means of balancing one pleasure against another, or any pleasure against a pain. In fact, however, we *can*, and constantly *do*, balance pleasures against pleasures. It may be admitted that pleasures cannot be compared with pains; but privations of pleasure can. "Which will hurt more—to go without this extra drink or to have a headache to-morrow morning?" is a perfectly intelligible question—at least to a still sober person!

Having dealt thus briefly with the objections to Hedonism, I propose to assume henceforth that happiness and freedom from suffering constitute the good, and that progress, therefore, consists in nothing else than the increase of happiness and the diminution of suffering. The last is practically the more important, for the simple reason that the feelings of different individuals cannot be arithmetically summed, and that one person's happiness cannot normally be reckoned as compensation for another's misery. Bentham's formula, "the greatest happiness of the greatest number," is deficient here. Very exceptional individuals—the stuff of which martyrs are made—may feel their sufferings alleviated by the thought of happiness accruing to others; but obviously we can take no account of such compensations in dealing with humanity at large. The pain of the sufferer must be reckoned as unredeemed evil, only to be accepted if the inevitable alternative is greater suffering to any individual—the same or another. The evil, therefore, of a given time is rightly measured by the greatest suffering which befalls any individual at that time; and social progress consists in the achievement of the *least* possible suffering of the *least* possible number.

Accepting this view of the end to be achieved, I think there can be no doubt that progress occurs. It cannot, however, be regarded as continuous, and its inevitability in the future remains pure assumption. Obviously, a society which does not burn people alive, or inflict equivalent agony, can claim to have progressed if a former age, in fact, did such things. This justifies the claim that civilization (except in the Southern States of America, the

happy home of Fundamentalists and lynchers) has progressed since the Middle Ages, and constitutes a sufficient answer to the nonsense uttered on that subject by Messrs. Belloc, Chesterton, Penty, and Ludovici. The development of modern medicine, and in particular the use of anæsthetics and antiseptics, are further instances of progress which only a blind pessimist would deny.

On the other hand, it is difficult to regard the history of civilization from Periclean Athens to the end of the Middle Ages as an example of progress. The worst features of fifth-century Greece were slavery and chronic war, with the cruelties attending each. Yet, if ancient Greece had slaves, medieval Europe had serfs; and if Greek slaves were often ill-treated and occasionally tortured, medieval serfs and freemen, too, were liable to more prolonged and refined torments if they had the misfortune to fall into the clutches of the Inquisition. The worst atrocity in war committed by ancient Athens was the massacre of Melos recorded by Thucydides. This seems to have shocked contemporaries just because the perpetrator was Athens, a State whose record for humanity was the best in Greece. But in the Middle Ages, or even in the Thirty Years' War, an affair like that would have created no surprise at all: such cruelties, from William the Conqueror's devastation of Yorkshire and the Crusaders' blood-lust at Jerusalem down to the sack of Magdeburg, were far too common. History from the fourth century B.C. to the seventeenth A.D. exhibits net retrogression, not progress.

What guarantee have we that the next century or so will not show a more rapid and sensational retrogression? The Great War proves that we are not only able, but on occasion willing, to organize and let loose at each other an avalanche of murder which nothing in history can parallel. Who dare yet predict with assurance that there will not be another Great War? If there is another, the enlightenment and humanitarianism of the eighteenth, nineteenth, and early twentieth centuries will prove to have been a false dawn, and civilization will go down into the dark—perhaps for ever.

On the other side of the question there is this to be said. Nightmare as the Great War was, it has called into being such a movement against war as never existed at any other period of history. A serious movement in this direction, not confined to a few idealists, but commanding the allegiance of great masses of men and women and the sympathy (even if in some cases hollow!) of most of the world's statesmen, is a new portent. The race between this force and the forces of militarism and reaction will decide the future of the world.

That such a development should have been possible is due to the partial permeation of society by a Rationalist or Secularist outlook. Notwithstanding the anxiety of the Churches to associate themselves by hook or crook with the peace movement, its incompatibility with Christian doctrine is plain. The Jesus of the Gospels predicts that "wars and rumours of wars" will be the sign of the Second Advent; the final establishment of peace while the world lasts is therefore clearly excluded. True, Modernists set aside the discourse in which that prediction occurs, and the doctrine of the Second

Advent itself, as mere Jewish apocalyptic ; but would they have done so if it had not first been discredited by Rationalist criticism? The spectacle of clerical apologists claiming the movement for world peace as specifically Christian is entertaining rather than edifying. How little Christianity has to do with peace we may learn from the history of Crusades and religious wars, banners blessed by Popes, ruffians egged on by monks and friars to the massacre of heretics and infidels, and masses offered and *Te Deums* sung in thanksgiving for successful carnage.

Recent episcopal utterances show that the Church is increasingly awake to a fact which has long been obvious—viz., that the religious conflict of the future will not be between Christianity and other forms of supernatural religion, but between all forms of supernaturalism and "secular civilization." The future of the world is bound up with the cause of secular civilization. For, if progress is to persist against the dark forces which make for division and war, the friends of progress must have a clear conception of the end which they seek to promote. That end, as we have seen, is the minimization of suffering. All forms of supernaturalism, therefore, or other confused thinking which attribute mystical value to suffering are enemies to be fought. The mental sloppiness which asserts the saving power of "the Cross" is capable, as we know too well, of obstructing legislation to facilitate the dissolution of unhappy marriages, urging the multiplication of unwanted children, and—witness 1914-18!—preaching the sovereign virtue of war as a remedy for national degeneracy.

We must get back to Utilitarian bedrock. There is no absolute good but happiness ; there is no absolute evil but suffering. Progress consists in increasing the former and decreasing the latter. To any one who finds in such an aim an absence of the emotional "tang" necessary to stimulate effort I say : Let him look at the other ideals which have beguiled us. Let him read history, and see how this, that, and the other mysticism have in turn decreased happiness and increased misery. Let him see how each false slogan successively—"God and the Church," "God and the Bible," "God and the King"—has sufficed to deluge the earth in blood and tears. Then, if love of humanity does not nerve him to the fray, hatred of the idols that delude and oppress humanity may do so.

RELIGION : HOW IT BEGAN, AND WHY IT FLOURISHED

By C. E. M. JOAD

I PROPOSE in this article briefly to indicate the origins in human need and human emotion to which religion may be traced. My description makes no pretensions to historical accuracy ; indeed, I have done little more than put together an impressionist sketch of the accounts current in works by modern psychologists and anthropologists, and the sketch is given here less because of its intrinsic interest than for the sake of its implications.

Psychologists delve into the unconscious to reveal the secret needs and desires of civilized man. Among them they detect the desires of which the religious consciousness is the sublimation, and the needs from which the belief in God springs. Anthropologists visit remote Melanesian islands and observe the religious practices of the natives. Recording them, they conclude that primitive religion is the offspring of human fear and human conceit ; it springs from the desire to propitiate the alien forces of nature, to invest human life with significance in face of the vast indifference of the universe, and to secure the support of an immensely powerful and ferocious personage for the individual, the tribe, or the nation. Both types of account issue in a general attitude to religion which ascribes it to a subjective need of human nature, and in so doing robs it of objective validity. Religion, if this interpretation is correct, is not an account of the universe, but a symptom of a state of mind. It is an expression of what man is like, not a statement of what the universe is like. To say that there is God is not to say anything more than that we need to think that there is ; and the need is in no sense a guarantee of the existence of that which satisfies it. Thus the great religions of the world are not theology, but psychology ; they are witnesses not to the attributes of God, but to the inventive faculty of man. God is not a real being, an objective fact in the universe ; He is the image of man projected (enlarged) upon its empty canvas.

Thus, if these accounts of religion in terms of its origins may be regarded as complete, religion is a fraud. Personally, while accepting them as valid, I do not regard them as complete. What they have to tell us of the origins of religion, of the emotions to which it appeals and the needs from which it arises, is, I think, true. But it is not necessarily the whole truth ; it may be that there is more in religion *now* than can receive adequate interpretation in terms of anthropology and psychology.

Without further preamble, then, I propose to lay bare the origins of religion. The treatment may be divided into three parts.

(1) First, there is the root of religion in man's feeling of loneliness and insecurity. Human life, we know, is immensely insignificant. It is an incidental development of matter, the chance product of mechanical forces, an accident unplanned and unforeseen in the history of the planet. A casual and unwanted passenger, it struggles across a fundamentally alien and hostile environment, in which the material and the brutal conditions and determines the spiritual and the vital. One day it will finish its pointless journey with as little noise and significance as, in the person of the amoeba, it began it. Until this consummation occurs man will continue to fare naked and forlorn through an indifferent universe, a puppet twitched into love and war by an indifferent showman who pulls the strings. His destiny is swayed by an inescapable fate; his fortunes are at the mercy of an irresponsible chance. He is a mere target for the shafts of doom.

These things we know, yet the knowledge is intolerable to us. We cannot bear to be without significance in the universe; we long to feel that we count, that somehow and to some thing we matter. And so we invent an immensely powerful personage called God, to whom we shall matter enormously. By making ourselves important to a person who is himself enormously important we achieve the desired significance, and the more powerful God is conceived to be the more significant do we, his chief concern, become. So tremendously does He care about us that He has made the material universe for our benefit; this world, rightly regarded, being merely a school for human nature, in which it is trained and educated for life elsewhere. The creation of the brute beasts to sustain our bodies, obey our orders, and provide edifying moral examples—as in the case of the ant, the bee, and the beaver—to our children, is a token of His concern for and intentions in regard to us.

Concerned as He is with the human species as a whole, He is quite specially interested in the particular race, nation, or tribe to which we happen to belong. He is guaranteed to take the same view of the rights and wrongs of matters in dispute as we do ourselves, so that, whatever the quarrel upon which the nation or tribe may happen to be engaged, it may rest assured of His support. Among polytheistic peoples this concept causes no difficulty; each has its own deity or set of deities, and the strongest gods win. But where there is one God, and only one, who sustains the worship and is the repository of the prayers of opposed nations, the zeal of His adherents tends to place the Almighty in a dilemma.

To God the embattled nations sing and shout
 "God strafe England" and "God save the King";
 God this, God that, and God the other thing.
 "Good God!" said God, "I've got my work cut out."

But it is easy to provide for God's solution of the difficulty by invoking His omnipotence.

Interested in the nation or tribe to which we happen to belong, He is quite specially interested in ourselves. Interested in and favourable towards us, He assists us against its laws, helps us out of its prisons, and discomfords our enemies generally. This is a world in which the good man is notoriously oppressed, while the wicked

man flourishes like a green bay tree. The arrangement offends our sense of justice, and, what is more, since we are good men ourselves, it is unfair to us personally. Very well, then ; we invent another world in which the good man flourishes eternally and the bad one is eternally punished. Thus the fundamental rightness of things is vindicated, and we incidentally benefit in the process. But, in order that the system may work, it is necessary that the good man and the bad man should be under continual observation, that neither the unrequited goodness of the one nor the unchastized badness of the other may go unregistered. This function is admirably performed by the vertical or upstairs God. Thoughtfully accommodated with an abode in the skies, a position admirably adapted for purposes of espionage, He keeps a dossier for each individual, recognizing in us the worth that others unaccountably fail to recognize, and observing the wickedness and hypocrisy of those whom the world equally unaccountably exalts. These things are carefully noted, and in the next world all is made right. Immensely important, admired, and envied—for are we not the favoured children of Omnipotence?—we live happily ever afterwards ; scorned and hated, our enemies are convincingly humiliated. Assuredly an admirable arrangement ! It is difficult to see how it could be improved upon. But God is essential to its proper working, and God flourishes accordingly.

God, then, on this view, is at once the product of human terror and the prop of human pride. He comforts our wretchedness, calms our fears, gives us an assurance of happiness, and makes us feel important.

(2) The second main root of religion is grounded in man's relationship to society. It is upon this origin of religion that Freud and the psycho-analysts chiefly lay stress. Freud's views are set out in his book, *The Future of an Illusion*, which appeared in 1928. The book is not very original, and the line of argument is not unfamiliar to Rationalists. It may, however, be regarded as fairly representative of the views of many educated people, especially psychological and scientific workers to-day. Freud proceeds upon the basis of what is in effect a Social Contract theory of the origin of society. This theory is admirably stated early in the second book of Plato's *Republic*. It involves the conception of primitive man as a completely non-moral animal ; as such his natural inclination is to get his own way at all costs, without thought of the consequences to his neighbours. If his neighbour annoys him, he knocks him on the head ; if his neighbour's wife attracts him, he makes off with her. Thus every man has, as Glaucon puts it in the *Republic*, a *natural* tendency to do injustice to his fellows. Admirable in theory, this system, or lack of system, has one serious drawback in practice : the right of every man to do injustice to his neighbours carries with it a corresponding right on the part of his neighbours to do injustice to him. He is one, but his neighbours are many, with the result that, where his hand is against every man and every man's hand is against him, he tends to get the worst of the bargain. His existence is intolerably insecure ; he must be perpetually on his guard, and he has no secure enjoyment of his possessions. In the days before society

was formed man's life, as the philosopher Hobbes puts it, was "nasty, brutish, and short." Finding the situation intolerable, man ended it by making a compact known as the Social Contract.

The compact was to form society. Consenting to live in society, man surrendered his natural right to do what he pleased to his fellows, on condition that they made a similar concession as regards himself. Social relations were regulated by public opinion, which later crystallized into law, and man for the future restrained his natural instincts lest he incur the social displeasure of his fellows. Thus was society formed, and from its formation springs the system of inhibitions and restraints which men call morality. To act morally is thus the reverse of acting naturally. We obey the law, and keep our hands off our neighbour's wife and property, not because we are by nature moral, but in fear of the penalties with which society has proscribed actions which violate the contract upon which its existence depends. In other words, we do right only through fear of the consequences of doing wrong. Remove this fear of consequences—as, for example, by endowing the individual with the gift of invisibility at will—and the social man would immediately relapse into the natural man, with the result that no property would be safe, no wife inviolable. The conclusion is that morality, which is simply the habit of acting in a manner of which other people approve, is not natural to man; on the contrary, it runs counter to his natural interests, frustrates his natural desires, and requires him to surrender his natural rights.

Now, man is not born social. He only becomes so at the cost of suffering and repression. Every child is born "natural," endowed with an egotism that bids him tyrannize over his world. Seeking to impose his imperious will upon his environment, he is surprised when his environment fails to respond, pained when it begins to resent. For a creature who starts with this endowment the business of growing up into a social adult, who knows the lawful limits that must be set upon his desires, is, it is obvious, a formidable one—so formidable that, according to Freud, it is seldom more than partially achieved, and never achieved without suffering and injury. To assist him in the difficult process of social adjustment the individual invokes the aid of religion. Hence the essence of religion, according to Freud, is compensation. It is compensation for man's loneliness in the face of the vast indifference of the universe; it is also, and more importantly, compensation for the renunciations which he must undertake at the bidding of society. "Wherein," asks Freud, "lies the peculiar virtue of religious ideas? We have spoken of the hostility to culture produced by the pressure it exercises and the instinctual renunciations that it demands. If one imagined its prohibitions removed, then one could choose any woman who took one's fancy as one's sexual object, one could kill without hesitation one's rival or whoever interfered with one in any other way, and one could seize what one wanted of another man's goods without asking his leave: how splendid, what a succession of delights life would be!"

Forego these delights we must if we are to achieve civilization. And, foregoing them, we demand that the gods shall reward us for our sacrifice. Hence religion is the force that reconciles man to

the burden of civilization. It is the most important of the compensations that civilization offers to its citizens ; so important that only by offering it does civilization become possible. When we have learned as by second nature to refrain from incest, murder, torture, and arson ; when we "pass right along the car please," adjust our dress before leaving, and take our places at the end of the queue, without thinking whether we want to do these things or not, the external restrictions which society imposes have become instinctive habits, the primitive child has become the civilized adult, and social adjustment has been achieved. But achieved only by the aid of religion. Had we no God to whom to turn for comfort and consolation, to whom to tell the unfulfilled wishes and thwarted ambitions, to whom to pray for fortitude to suffer and strength to forbear, the task would be beyond our powers.

Nor is it only from others that we need a refuge. There is the riot of our desires ; there are the prickings of our conscience ; there are the stings of remorse. For, though manhood is achieved, the adjustment to society is not yet complete. Still, though with decreasing vigour as the individual grows older and society more civilized, the natural man raises his head and rebels. When the rebellion comes into the open, when we refuse to pass down the car, take the head of the queue, or insist upon our inalienable privilege of driving upon the right-hand side of the road, society has little difficulty in quelling us. There are policemen, there are law courts, there are prisons, there are even scaffolds. But sometimes the rebellion stays underground, or, though it comes to the surface, is undetected.

Against these hidden revolts society must protect itself, and evolves accordingly a system of espionage. There is a spy within the individual citadel itself, a spy in the service of society. This is our old Victorian acquaintance—the conscience, the policeman of society, stationed within the individual to see that social interests are duly observed. Directly we go wrong—directly, that is to say, we cease to act in a way of which society approves—conscience begins to nag. Like a cur that does not stop us from passing, but that we cannot prevent from barking as we pass, conscience voices the disapproval of society. The voice of conscience is an unpleasant one, causing us grave discomfort, and in extreme cases driving us to madness. Some refuge from the stings of conscience we must find, and we duly find it—in religion. Stricken by remorse, we demand that our sins be forgiven us. Who can forgive sin but God? Fouled by our sins of wrongdoing, we demand to be made clean. How can we be cleansed save by bathing in the blood of Jesus? And so we come to a new function of religion, a new use for God. Again religion takes the form of an insurance. We deny ourselves the minor luxuries, abstain from the grosser forms of vice, and submit to a little wholesome boredom on Sunday ; and in return we are guaranteed against discomfort from the stings of conscience in the present and possible discomfort at the hands of the Almighty in the hereafter.

In all these ways and in many others religion seeks to compensate us for the strain and stress of living in society.

As society evolves, religion evolves with it. We can, in fact,

distinguish different stages in the growth of religion, determined by the nature of the need which at each successive stage it has been chiefly invoked to satisfy. Initially the chief use of the gods is to protect human beings from the capriciousness of nature ; but, as man progressed, the discoveries of science introduced order into disorder, and substituted law for caprice. At the same time the growing complexity of civilization increases the strain of social adjustment. Less needed in the physical world, God becomes an indispensable refuge for the harassed soul of man.

To these accounts of the function of religion most psychologists and anthropologists would, with minor modifications, subscribe. The more we learn about our mental and bodily natures, the more, it is said, do we lay bare the roots of religion in the fundamental needs of our natures. Psychologists derive the doctrine of original sin from the sense of man's impotence in the face of chance and destiny, physiologists from the transgressions of his passionate body against the taboos of society. From our infancy we walk between a fear and a fear, between ruthless Nature and restricting culture, crying, like Bunyan's Pilgrim, "What shall I do to be saved?" And, demanding salvation at all costs, we create God to save us. Thus religion is the consolation of mankind, and as such its appeal is universal.

(3) But we now come to a more limited but scarcely less important function which religion has played in the history of man. To its successful performance of this function its growth and vigour in more modern times are mainly attributed.

There are evils which are the common heritage of all men ; they are death, disease, the ingratitude of man to man, the malevolence of destiny. These are no respecters of persons, and bear with impartial severity upon us all. But there are others which do not belong to the essential conditions of human life, but are incidental to the way in which man has chosen collectively to organize his life. For men, equal in the eyes of God, are far from equal in the eyes of society. There are and always have been rulers and ruled, oppressors and oppressed, rich and poor ; according to many authorities, there always will be. Society, moreover, is based upon force, which its rulers employ to maintain and perpetuate the inequalities on which they thrive. To make their task easier they invoke the assistance of religion! Hence religion is not only a means of reconciling the individual to society ; it is also, and more particularly, a device for inducing the poor and oppressed to tolerate the particular order of society which impoverishes and oppresses them. Thus religion becomes the instrument of the rich and the bridle of the poor. How is the oracle worked? It is significant, in the first place, that most religions extol the virtues appropriate to slaves—namely, meekness, humility, unselfishness, and contentment—and censure, as the vices of pride and presumption, the qualities of boldness, equality, and independence, which must be displayed by those who aspire to rise above their servitude. The Christian religion goes further and makes a virtue of poverty. It is only, we are assured, with the greatest difficulty that the rich man shall enter the kingdom of heaven, which opens its gates to the humble and needy. Poverty and insignificance are

not, therefore, as they appear to be and as the world insists on regarding them, disabilities to be avoided at all costs; they are passports to celestial bliss. As such they are rightly to be welcomed. The Christian religion, indeed, expressly encourages us to cultivate them, exhorting us to worldly improvidence and inertia by bidding us take no thought for the morrow and to be content with that state of life into which it has pleased God to call us.

As it has pleased Him to call ninety-nine out of every hundred of us to an extremely lowly state, religion, in so far as it is taken seriously, assists in keeping us where we are. Assists whom? Those who benefit by our remaining where we are—namely, our rulers. For the governing classes have been quick to seize the opportunity religion has offered them of not only subduing their inferiors, but of representing their subjection as a positive asset to their subjects. Ever since an early governing class realist slipped the parable about Lazarus into the text of the Gospel of St. Luke, they have sought to persuade the poor that it was only by remaining so that they would go to heaven, and been able to produce good Scriptural backing for their arguments. The poor, on the whole, have been only too ready to agree, and have gladly embraced the promise of celestial bliss in the next world as a compensation for the champagne and cigars they were missing in this one. Since the celestial bliss was known to be of indefinite continuance, while the champagne and cigars could not last at most for more than a beggarly fifty years (as a matter of fact, they often lasted less, God having from time to time seen fit to punish the excesses of the worldly by dulling their palates and depriving them of their appetites in the present as an earnest of his intentions for the future), the poor, it is obvious, have the best of the bargain. If it has ever occurred to them to wonder why the rich and powerful should recklessly jeopardize the chances which they so freely proffer and warmly recommend to their poorer brethren, they may possibly have comforted themselves with the reflection that "*quem deus vult perdere prius dementit.*" Possibly, but not probably, for on the whole the poor and oppressed have been too much engaged with their poverty and oppression to reflect upon the motives of their betters.

Thus religion is a gigantic social hoax, a hoax which has been on the whole remarkably successful. "What is it," asked Napoleon, a notorious sceptic, taxed with the protection which he afforded to a religion in which he did not believe, "that makes the poor man think it quite natural that there are fires in my palace while he is dying of cold? That I have ten coats in my wardrobe while he goes naked? That at each of my meals enough is served to feed his family for a week? It is simply religion, which tells him that in another life I shall be only his equal, and that he actually has more chance of being happy there than I. Yes, we must see to it that the floors of the churches are open to all, and that it does not cost the poor man much to have prayers said on his tomb."

THE RATIONALISM OF KIT MARLOWE

By MACLEOD YEARSLEY

IT is probable that there have been men endowed with a capacity for independent thought in advance of their time who have held rationalistic opinions at every period of English history since the Conquest, but, owing to the exigencies of the period, such opinions necessitated a rigid concealment. With the horrible machinery for repression at the disposal of an unscrupulous and intolerant hierarchy to threaten the least divergence from a rigid faith, it must have been difficult for the boldest spirit, even a powerful baron, to betray unbelief in the dogmas of the Church. But, since the nobles were superstitious and unlettered and the majority of the lower orders were probably incapable of consecutive thought beyond the problems of daily existence, it is doubtful whether even a nebulous glimmering of rational thinking was possible until the victory at Bosworth Field at once closed the wasteful Wars of the Roses and opened that Tudor period of peace in which England began to awaken to a knowledge of herself and her destiny. Such learning as there was belonged to the ecclesiastics, and, although a proportion of these must have experienced faint perceptions that the foundations of their beliefs were not as secure as was asserted, they knew that there were numerous solid reasons for keeping such ideas to themselves. Religious revolts had hitherto been, and were yet for some time to remain, internecine, such movements being against clerical corruption rather than against the foundations of the Christian faith itself. But a slow evolution of men's minds, existent but as yet inarticulate, must have been going on which prepared them for the Renaissance, and when that appeared it stimulated the kind of thought which led towards rational inquiry—a stimulation accentuated by the sudden discovery of new worlds. As a consequence a full century had not passed since the foundation of the Tudor dynasty in 1485 before Freethought began to show itself in the writings of the bolder spirits of the time. It was not good to be a Freethinker in those days; all grades of such opinions were lumped together under that term of direful opprobrium, "Atheism," a word still used by the narrow and archaic mind in the same sense; and Atheism was punished by rack and rope and axe. The Church of Rome had given place to the Established Church, not less jealous of prerogative, not less intolerant of dissent, and quite as prepared to punish with a ferocity equal to that which it denounced in the organization whose place it had so recently usurped. These were days of Fear; some amount

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of toleration was supposed to exist, but the religious mind was, as ever, highly inflammable, and the new Church was by no means sure of its footing. England herself had not yet a sense of security, politics were still far from free of religion, and insecurity breeds fear. There must have been many advanced minds, influenced by the new learning, which, outwardly conforming, were secretly imbued with Rationalism. They were not necessarily timid minds, like some of to-day, who acknowledge unbelief to private friends of like opinions, but fear openly to ally themselves with Rationalist Associations. At a time when none could be absolutely sure of his neighbour, only the bold and fearless dared to give vent to such thoughts, with the many and weighty reasons for concealing them. As Jonson makes Sejanus say: "What excellent fools Religion makes of men!"

One such fearless mind was that of Kit Marlowe, born in the great shrine of medieval superstition, Canterbury, in 1564. Christopher Marlowe—usually known by the more familiar contraction, as Heywood indicated, writing in 1635,

Marlo, renowned for his rare art and wit,
Could ne'er attain beyond the name of Kit—

was the son of a shoemaker, and received his education at the King's School in his native city, matriculated at Benet College (now Corpus Christi), Cambridge, and obtained a bachelor's degree in 1583. No need is there here to enumerate his works, save to note that the heroes of his tragedies are, significantly, usually heathens or infidels, and that he avails himself of every opportunity to air his scepticism. His death was untimely, and probably forestalled grave trouble at the hands of the authorities for his avowed opinions. A lady playwright, defying all authentic evidence, recently made him die by the hand of Shakespeare—a use of "dramatic license" the doubtful taste of which needs no discussion. The real facts of his murder are known from Francis Meeres and the Parish-book of St. Nicholas, Deptford, in which is entered: "Christopher Marlowe, slain by Francis Archer, the 1 of June, 1593." Meeres's account, summarized by Havelock Ellis, states that plague, raging in London in that year, closed the theatres, and that the actors went into the provinces, while many authors took refuge in the country. In May Kit was at the then little village of Deptford. In a tavern where were turbulent blood, wine, courtesans, and daggers, Marlowe, in a brawl "over bought kisses," was slain by "a bawdy serving-man," and lies buried in an unknown spot, beneath the towers of St. Nicholas.

The evidence of Marlowe's free-thinking is to be found in his plays, in remarks of contemporaries, and in the document which exists in the Harleian MSS. concerning his "Damnable Opinions and Judgement of Relygion and Scorne of God's Worde," and indicates, by the words "he is lay'd for," that steps were being taken to apprehend him. This document is a deposition signed by one Richard Bame, and was put in the hands of the authorities only a few days before the poet's death. The original title given above is partly scored through, and altered as follows: "A Note delivered on Whitson eve last of the most horreble blasphemies

uttered by Christofer Marly, who within iii dayes after came to a soden and fearfull end of his life." It is satisfactory to know that the informer Bame was hanged at Tyburn in 1594 for some degrading offence; but, as Havelock Ellis says, "there seems no reason—while making judicious reservations—to doubt the substantial accuracy of his statements." Those who are interested to know the details of Marlowe's "blasphemes" will find the full text of the document in an Appendix to the Mermaid edition of the dramatist's works.

In this accusation were implicated Kyd, Royden, Warner, Hariot the mathematician, and Sir Walter Raleigh. These, with Marlowe, formed a literary circle, and probably were not averse to discussing many prohibited problems. Kyd, who had shared Marlowe's lodgings, is said to have been imprisoned on the same accusation, but succeeded in proving his innocence in a letter to Lord Keeper Puckering. As to Raleigh, of whom his biographer, Martin Hume, has said, "Even if his faults were greater than they were, his love and faith in the future of England as the mighty mother of empires and the mistress of the seas demand for him the judgment that he was a towering Englishman, and died for a great ideal," the accusation of Atheism against him was persisted in during his whole life. According to Hume, however, "there does not seem a tittle of evidence to support it," and when he was upon the scaffold he stoutly denied it. Aubrey says that Sir Walter "was scandalized with Atheism; but he was a bold man, and would venture at discourse which was unpleasant to the churchmen." His *protégé*, Hariot, Aubrey declared to be a Deist; but Deists in those "spacious" days were included with Atheists.

It appears evident that Marlowe was well known to be a frank and outspoken Freethinker. Greene, who predeceased him but a very short time, reproached him in his *Groat's Worth of Wit* for his life and opinions. Greene's own life, however, bore examination far less than Kit's; but the former wrote from the superior position of one who had found salvation by repentance, and his *Groat's Worth* might fairly be described as the death-bed ravings of a broken-down debauchee. Marlowe's boldly expressed opinions were not more than those of a Rationalist born a trio of centuries too soon, and his friends were among those of the greatest intellects and finest natures of his period. Walsingham was his patron; Nash, Blunt, Drayton, and Chapman all wrote kindly of him; and, if the allusion in *As You Like It* to the "Dead Shepherd" be meant for Marlowe, Shakespeare shared in the general love for him. His personality, like that of so many of the great Rationalists who have come after him, must have been a very fascinating one.

It will fitly conclude this paper to quote some of the lines in Marlowe's plays that reflect his opinions. He is, it may be remarked, not averse to drawing priests as despicable characters—as, for example, the two friars, Jacomo and Barnadine, in the *Jew of Malta*; and when Ithamore in that play suggests poisoning all the monks Barabas replies:—

Thou shalt not need, for now the nuns are dead
They'll die of grief.

The play contains also the line :—

Some Jews are wicked, as all Christians are.

In *Tamburlaine* (Pt. II, ii, 1) the Christians, by treacherously breaking their oath, "calling Christ for record of our truths," endeavour to take their heathen enemies at a disadvantage, and are deservedly defeated. Before the battle Sigismund, King of Hungary, attempts to point out to Baldwin and Frederick, Lords of Bohemia and Buda, that they are not "playing the game." Baldwin replies, with true Christian sophistry, that

with such infidels,
In whom no faith nor true religion rests,
We are not bound to those accomplishments
The holy laws of Christendom enjoin ;
But as the faith, which they profanely plight,
Is not by necessary policy
To be esteemed assurance for ourselves,
So that we vow to them should not infringe
Our liberty of arms or victory.

Sigismund points out that, although the oaths of an infidel enemy may not be good security,

Our faiths are sound, and must be consummate,
Religious, righteous, and inviolate.

But his scruples are broken down by Frederick with :—

Assure your grace 'tis superstition
To stand so strictly on dispensive faith ;
And should we lose the opportunity
That God hath given to venge our Christians' death,
And scourge the foul blasphemous Paganism,

So surely will the vengeance of the Highest
And jealous anger of His fearful arm
Be poured with rigour on our sinful heads,
If we neglect this offered victory.

And so they proceed

To take the victory our God hath given.

In ii, 2, Orcanes, Tamburlaine's ally, on hearing what is toward, remarks :—

Can there be such deceit in Christians,
A treason in the fleshly heart of man,
Whose shape is figure of the highest God !

and tears up the articles of peace, calling :—

To arms, my lords ! On Christ still let us cry !
If there be Christ, we shall have victory.

And the treacherous Christians are defeated. One feels that the Rationalist Marlowe must have enjoyed penning these scenes, and making Christ punish his own people for their treachery.

In the same play (v, 1) Marlowe again gives prominence to his opinions when Tamburlaine burns the Mahomedan sacred books, with the taunt :—

Now Mahomet, if thou have any power
Come down thyself and work a miracle :
Thou art not worthy to be worshippèd
That suffers flame of fire to burn the writ
Wherein the sum of thy religion rests.

Why send'st thou not a furious whirlwind down
To blow thy Alcoran up to thy throne,
Where men report thou sit'st by God himself?

Tamburlaine's death is not made the subject for religious triumph—he dies *rationalistically*, if one may so describe it:—

Farewell, my boys; my dearest friends, farewell!
My body feels, my soul doth weep to see
Your sweet desires deprived my company,
For Tamburlaine, the scourge of God, must die.

Many dramatists would have made his decease the opportunity for Christian edification.

Faustus would naturally give Marlowe chances for the airing of his opinions, and in the first scene he makes the learned Doctor tell his friends:—

Both law and physic are for petty wits;
Divinity is basest of the three,
Unpleasant, harsh, contemptible, and vile.

In sc. 2 he orders Mephistophiles to

Go, and return an old Franciscan friar;
That holy shape becomes a devil best.

The devil, in sc. 7, takes Faustus to see

the Pope,
And take some part in holy Peter's feast,
Where thou shalt see a troop of bald-pate friars,
Whose *summum bonum* is in belly-cheer.

And in this scene Pope, Cardinal, and friars receive some rough handling from Faustus, in spite of bell, book, candle, and comminatory psalm. In the last scene (16), when Faustus calls despairingly upon Christ to save him, his lament, from "See, see where Christ's blood" to "heavy wrath of God," suggests that Marlowe wrote with some idea of showing the powerlessness of Christ over the Devil.

In *Edward II*, Marlowe's most highly finished work, the bishops are not treated with much respect.

Extracts could easily be multiplied, but enough have been given. I have, moreover, taken those works only which are acknowledged to be Marlowe's. There might be added from composite works other lines which may, on internal evidence, be presumed as from his pen.

THE TIDE OF POPULAR SUPERSTITION

By S. K. RATCLIFFE

A SHORT time ago I was staying at an hotel in an English university town. My room was No. 12. I looked at the adjoining door. Needless to say, it was numbered, not 13, but 12A. I made a few inquiries of hardened travellers : How often nowadays did they find an hotel room bearing the number 13? Very seldom, they assured me, although until fairly recent times nobody in common-sense England bothered about such trivialities. This started me upon a little tour of investigation, which I did not pursue far, for the reason that it would have absorbed much more time than one has to waste. But illustrations in plenty came without seeking, and from England as freely as from other quarters of the English-speaking world. True, it has become a common practice in America to evade the number 13 in storeys as well as rooms. There is, for instance, no thirteenth floor in the Times Building, New York, or the King Edward Hotel, Toronto ; and the same absurdity may be noted in countless skyscrapers. But things in London are just as silly. There is no No. 13 in Berkeley Square, and the world connects that fact with the tomb of Tutankhamen. If there is a 13 in Grosvenor Square, there is none in Grosvenor Street ; while a mention of the fact that in the Place and the Gardens of the same name no excision has been made might bring the retort that one house is appropriately occupied by an inspector of taxes and the other by a member of the Gough family, which, ever since the Sikh wars, not to mention the Curragh and the Western Front, should be capable of resisting anything. London and the Press are full of illustrations. We are evidently only at the beginning of troubles in regard to the social inconveniences of those kinds of superstition which until yesterday made nothing but a passing joke among ordinary people. Thirteen at table, especially a festive table, has, I suspect, long been an operative superstition ; and it is one of the few examples for which one could make out a tolerable justification in popular sentiment. The table in Christendom has made a profound appeal to the common heart. It is linked with the affectional side of the tragedy of Jesus, and the number accordingly has involved some special symbols and associations. It is easy enough to understand why a family or ceremonial meal might be connected with this particular taboo ; but why in the world should average folk give way to a fatuous extension of the idea until it embraces every use of a figure that is no less common and inevitable than any other ?

Perhaps we may say that the family and the popular Press are to blame in about equal measure. There are millions of house-

holds, especially in the English-speaking lands, where every idiotic little superstition is repeated and cherished, where no occurrence, however minute, which can in any way be connected with a piece of old wives' rubbish is allowed to pass without remark. And all such imbecilities are meat and drink to the people who provide the domestic and gossip columns of our newspapers and picture papers. Hence the continuous stream of paragraphs and photographs concerning the minor superstitions of our time: about the half-wits who use elaborate generalship to restore the even number at a dinner table; to make the sixth day of the week and the 13th of the month as far as possible socially barren; to prevent an underpaid clergy from earning marriage fees in the month notoriously intended by Mother Nature for mating; to encourage the actress and the racing motorist, the aviator and the pugilist, in their conviction that without a mascot they cannot pull it off. Such things to-day are a widespread nuisance, a nuisance that is obviously increasing; and they are among the lesser symptoms of a movement, a disease, of the age upon which, it is quite certain, we shall have to make a serious collective onslaught.

I do not see how it can be denied that the flood of superstition, as it affects our common life, has been fully maintained, perhaps actually increased, with the spread of literacy and the advance of democracy. The crowd remains superstitious, and a popular Press not only makes the details of superstition even more widely known but enlarges the tolerance of the multitude for its own follies and for the silliness of the more fortunate. Those of us who, fifteen years ago, were familiar with the Angels of Mons are not likely to forget the marvellous ramifications of that story or the straits to which certain Church papers were put by the refusal of a large part of their constituency to have the story questioned. Mr. Arthur Machen, its only begetter, might tell why and how he invented it. He might explain, as he did, that the angelic host of the Mons retreat was neither more nor less than the pleasant conceit of a good journalist—himself—gravelled for an afternoon topic in an hour of profound national gloom. It would not do. The angels were there; and if Mr. Machen had indeed made up that particular cohort—well, there were plenty more. A cloud of witnesses appeared to testify. The actual experiences they reported were innumerable; a small selection of them was sufficient to make a volume which in due course will be cited, along with Mr. Machen's brochure, now become a somewhat rare curiosity, as a document in illustration of the modern growth of a legend.

One would not find it easy to overstate the extent of the superstition prevailing among the working folk of England all through the centuries, in town and country alike, down to the establishment of popular education. It has always been enormous; the sum-total probably has not changed much. But it would be possible to argue that after the seventeenth century there was among all grades of the middle classes a smaller amount of merely silly superstition than in most European countries, and, generally before the War, a good deal less than there is to-day. The average Victorian, man or woman, despised the wearer of charms, had never heard of mascots, and, although he might joke at times about

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Friday the 13th, would not be bothered to take notice of such things in the common affairs of business or recreation. I should very much doubt whether, forty or fifty years ago, any hotel proprietor or hostess was required to manœuvre in regard to anything, save perhaps thirteen at table, for the purpose of conciliating or reassuring some feeble-minded guest. To-day in such matters there is little freedom; all the nonsense has to be taken note of. I am wondering how long it will be before the iron nerves of the people living upon a certain familiar 'bus route give way, and a petition is submitted to Lord Ashfield by ten thousand citizens of Hendon and Golders Green praying that their families may no longer be imperilled by being compelled to travel to and fro in the deadly No. 13.

I venture the assertion that in 1930 the English middle classes and the idle rich are more subject to the sillier sorts of superstition than they were in 1830 or 1860, and that we may find some part of the explanation in the decay of popular religion. In other words, that the parable of the swept house and the seven devils applies in this case with a fair degree of aptness.

The English people, said Matthew Arnold, entered the prison of Puritanism and turned the key upon their spirits there for two hundred years. Well, a considerable percentage of them did; a much larger percentage did not. The majority of those who entered the prison of Puritanism embraced a single great theological superstition and allowed it to affect the major portion of their lives. In the portion that was relatively unaffected prudence and common sense were as a rule dominant. As for those who remained outside the dungeon of puritan dogma, they favoured a religion of ease and common sense which must, on the whole, have made less room for the imbecile superstitions than any religion, or national ethos, to be found in Europe between the counter-reformation and the generalizations of modern science.

Or put it this way: Calvinism, Evangelicism, and Anglicanism alike meant the acceptance of a body of doctrine which, in the twentieth century, the average man and woman, however far they may be from the avowal of Rationalism, have ceased to be concerned with. For the most part they do not trouble, or do not wish, to deny it; but it means nothing to them. In the old days, of course, it meant a very great deal; it seemed to explain, or to provide for, all that mattered in the allied regions of belief and conduct; it covered the larger part of that undefined province which lay open to speculative thought. The Puritan or the Methodist might go all his days in the conviction that his life was supernatural, that he was being guided and checked at every turn. But at least his assumption was that the interference came from a power which was supreme; he did not play about with notions of petty, vexatious, or malignant influences somehow working in everything to upset the ordinary person's apple-cart. The religious Briton was a thoroughgoing supernaturalist. In the presence of an all-pervading supernatural power where was there an opening for odd numbers or the new moon, for ladders, mirrors, or black cats?

It is good to quote the Bishop of Birmingham, one of the two conspicuously outspoken Churchmen of our day, as a supporter of this reading of current practice. He who has the greater trust,

says Dr. Barnes, "will not put a mascot on his motor-car or have the car blest by a priest in some fanciful pseudo-religious service." Just so; nor would the indifferent Church of England, in the ages of faith so called, have gone after such follies. He did not worry about doctrine, or even about that entity which Bill Boanerges permits us still to call the soul. He was content with the faith as casually interpreted by the clergy of the Establishment. And, being an adherent of common-sense religion, he could cheerily take whatever number might be offered; he could drive to market, ride to hounds, or pedal his bicycle without reinforcing his insurance policy by means of a charm. His successor has changed all that. His theological house is swept, if not garnished; and, there is no mistake about it, the little demons of superstition—and not seldom one or two of the greater devils—have come in and taken possession. Dr. Barnes is disturbed about it, and Dean Inge is angry and contemptuous. But it is difficult to see how they can help in any measurable degree; for the one speaks as the representative of the smallest and most harassed party in the Established Church, while the other, addressing a far larger audience of non-churchgoers than any other Church dignitary, has as a religious leader no influence whatever.

The social philosopher of our time is and must be incessantly occupied with the unfinished tasks of democracy. Every one is familiar with them in the political sphere. In industry and economics, since the War, they have compelled attention at every stage, and the hopes and fears surrounding the second Labour Government have made all thoughtful people aware of "the petty done, the undone vast." And in social education it is worse. Here we are only at the elementary stage; and can we be surprised when we look around us at the indescribable slough of delusion and folly, cheap mysticism and cheaper magic, in which so immense a multitude of our "educated" people have allowed themselves to be submerged? Not very long ago the English Press made merry through half a summer over the monkey-evolution trial at Dayton, Tennessee, and at any moment the British public is ready to gibe at the victims of the latest seer from the East or efficiency-prophet from the West. But what justification have we for putting on airs of superiority? It is a few months only since the Houses of Parliament were engaged in a debate which was, by common agreement, the most absorbing of the generation. It had to do, as we all remember, with certain differences between forms of mystical doctrine, so remote from our modern life that the distance could not be stated in intelligible terms, and with differences in the minutiae of Church practice which seem to the ordinarily intelligent man and woman worthy of no more than the briefest passing mention in the records of comparative religion. But worse even than the conflict over the Prayer Book, from the standpoint of the sociologist who clings to the faith in democracy—as that faith is held, let us say, by a man such as Lowes Dickinson—is the condition of England to-day in respect of fancy irreligions, irrational cults, unbounded credulities, and reliance upon the gadgets of a thaumaturgy which the poorest practitioners of the dark ages would have laughed to scorn.

APOLOGETIC EXPLOITS

By CHARLES T. GORHAM

THE poor Christian apologist is always with us, and sometimes proves a distressing bore. He goes on making ropes of sand which the winds of reason blow into thin air. We may admire his courage without accepting his arguments. At present there is, if we may judge from the newspapers, something of a "boom" in religious controversy. That is a healthy sign, though whether the claims of good sense are at all liberally recognized may be considered rather doubtful.

The particular doctrine which orthodoxy is feverishly anxious to restore to its lost supremacy is that of the Resurrection of Jesus. One cannot help suspecting that behind the zeal lies a lurking suspicion that the apologetic structure is a very shaky one, needing a great many props to keep it standing. It looks like that, even though many of those who readily profess conventional doctrines are sincerely convinced that this particular article of faith is impregnable to hostile assault.

One may venture to surmise that Christian writers in general have rather foggy ideas on this foundation doctrine. But they must, and some of them do, concede that an event, whether or not it be alleged as both miraculous and historical, is to be judged by the rules of evidence which would be applied to any other event. And they ought to admit (but frequently do not) that accounts of occurrences outside the normal course of nature need much stronger evidence than accounts of occurrences which fall within the natural order, and therefore have, to start with, a certain probability in their favour. The alleged resurrection of Jesus lies outside the sphere of verifiable experience.

Two recent utterances on this everlastingly disputed doctrine have aroused a curiosity which is not unnatural. Sir Ambrose Fleming, "one of the greatest living scientists," in a lecture before the Victoria Institute, reported partly verbatim in the *Daily News* of June 4 last, made some statements which provoke critical comment. The lecturer is an expert on electrical science, but appears to be innocent of the rudiments of Biblical criticism. According to the report, Sir Ambrose declared his belief in the supernatural incidents related in the Bible, referring particularly to the Resurrection, for which he claimed there was "unbreakable testimony."

It would be interesting to know what, in this gentleman's opinion, constitutes testimony so perfect as to be "unbreakable." The usual contention of the Christian advocate is that he has evidence which to him is good and convincing, though, if he is a fair-minded

person, he admits that it is rather inferential than direct. Not before have I met with one who asserts it to be "unbreakable." How does Sir Ambrose explain the disastrous admissions of Dean Inge, the Rev. J. M. Thompson, or Dr. Percy Gardner? Is he even aware of them?

The Victoria Institute lecturer went on to remark that "the Bible has a remarkable power of establishing its historical accuracy." Precisely the reverse would be a more reasonable assertion. If there is one thing more than another on which the Biblical statements need confirmation, it is history. Naturally enough, for of history in the modern sense the ancient writers seem to have had little or no idea. Elisha makes an iron axe-head float on water, and, as nowadays we can do surprising things with electricity, we need not think the story untrue. Is it reasonable to suppose that the prophet had a knowledge of science which has only recently been attained, after millenniums of research? If he had no such knowledge, why should we assume a miracle without a fraction of evidence? Is the "famous scientist" reasoning or "pulling our leg"? But I am forgetting that "remarkable power" of the Bible which needs not the "foreign aid" of corroboration. If its statements really are of Divine origin, we may accept, without understanding, the story of Elisha; but people should not be asked to accept it on no evidence at all.

Another highly questionable contention is that, "apart from its supernatural accompaniments, the sudden rise and growth of the Christian Church cannot be accounted for," and that without them "the future holds no assuring promise of a final conquest over the spiritual and material ills to which flesh is heir." A slight acquaintance with the history of Christian origins makes it clear that there was nothing startlingly sudden about the rise of the Church, and that it is perfectly well "accounted for" without the assumption of supernatural aid. The still undetermined extent to which Christianity has overcome or will overcome "spiritual ills" is a matter of opinion. A decision seems improbable, but we may say that, for a Divine revelation, its success in that direction has not so far been remarkable. In overcoming "material ills" Christianity has had no success, and very little effect. It has, as every reader of history knows, vigorously opposed material improvement in almost every form and on almost every occasion. If that is a triumph, the Christian Church should hang its head in shame. As a master in science Sir Ambrose may be asked: Knowest thou not these things?

A preceding sentence of this astonishing lecture seems to supply a clue to its author's mental attitude. He says: "We have to make our choice between building on the impregnable rock of Holy Scripture or the shifting sands of the hypothesis of evolution." There speaks the sturdy Fundamentalist, and I cannot but hope that only a few specimens of that queer creed are to be found in this country. The title of Mr. Gladstone's famous damp squib comes to one's mind, and it is a little surprising that a twentieth-century scientist should endorse it. The gibe about Evolution comes gracefully from an authority in electrical science. I feel inclined to be rude to Sir Ambrose Fleming; but, emulating the

well-known restraint of Christian writers, I am able to resist the temptation.

Still, I must have another shot. This is how the lecturer deals with Bishop Butler's "guide of life": "The more the statements as to the incidents of the Crucifixion are considered and compared, the more utterly improbable does it seem that they should have been the result of human imagination as regards their supernatural character. It is almost universally granted by those whose opinion is worth anything that the Gospel narratives are based broadly on historical facts." In the early days of Christianity the proneness to accept the supernatural without the least inquiry was so marked as to prove the precise contrary to the lecturer's conclusion. He was cautious in suggesting that "the Gospel narratives are based broadly on historical facts." There must have been facts, but of what nature? The basis may satisfy the believer, but what about the reasoner? The stories of the Crucifixion are the less open to criticism, as supernatural features are virtually absent from them. "Broadly" they may be true, but Sir Ambrose must surely be aware that many of the details are not entirely in accord with either Roman or Jewish legal procedure. He does not appear to be very familiar with the "historical facts."

The subject, however, on which Sir Ambrose is most emphatic (with even less warrant) is that of the Resurrection, of which his favourite supernatural is the very essence. Here corroborative evidence is more urgently needed. Its paucity is extraordinary. We may well ask: Is there any evidence whatever? The apologist has a hazy idea of the nature of evidence. An undoubted authority, Sir George Cornewall Lewis, in his *Credibility of Early Roman History* (p. 16), thus defines it: "Historical evidence, like judicial evidence, is founded on the evidence of credible witnesses. Unless these witnesses had personal and immediate perception of the facts which they report, unless they saw and heard what they undertake to relate as having happened, their evidence is not entitled to credit. As all original witnesses must be contemporary with the events which they attest, it is a necessary condition for the credibility of a witness that he be a contemporary, though a contemporary is not necessarily a credible witness."

Will any apologist say that the definition is incorrect? Can it be honestly claimed that the Gospel narratives satisfy it? They are not contemporary narratives, and their accounts are not credible "as regards their supernatural character." I would even assert that *no* personal testimony could prove such a miracle as the Resurrection. But here personal testimony is not forthcoming. The nearest approach to it is the passage in the First Epistle of St. Paul to the Corinthians; but as that speaks of a visionary experience, and quite possibly was not written by the Apostle himself, it cannot be treated as satisfactory evidence. All we possess are statements which fail to comply with the necessary conditions of credibility. Sir Ambrose Fleming not only accepts them, but considers they constitute "unbreakable testimony"! Such vagaries of reasoning leave me gasping with astonishment.

In sheer fatuity the Victoria Institute lecturer does not stand alone. On April 7 last the *Sunday Graphic* printed a "five

minutes' sermon" by Father Vincent M'Nabb, O.P., in which he called attention to the "extraordinary fact that, whereas there is historical evidence—contemporary or sub-contemporary—for the Resurrection, there is no evidence—contemporary or sub-contemporary—against the Resurrection." The absurdity is repeated: "The Resurrection of Jesus cannot be attacked by history, because there is no historical evidence against it." *Ergo*, it must have occurred! Shall we ever get to the end of this nonsense? Father M'Nabb puts it rather neatly. He assumes the disbeliever to be placed in the uncomfortable position of holding his negative view with no confirmatory documents, while rejecting a positive view supported by at least five witnesses. If the argument were correctly stated, it would be formidable, though far from conclusive, because so much is omitted. Did the Church never destroy hostile evidence? But the argument is not correctly stated. The five witnesses do not exist, and, so far as we know, never did exist. Conflicting statements by unknown writers cannot be accepted as evidence of miracles.

We are told that "Matthew and John give eye-witness and ear-witness." They do not. They never allege personal observation of the facts. Even the documents said to be "according to" them do not go so far as that. And it would be hard to find documents which, as testimony to facts, carry more plainly on their face their manifest imperfections. Had these two Evangelists witnessed the Resurrection, or with their own eyes seen Jesus walking about and eating after his death, would they not have said so? They merely say he "was seen"; by whom and in what circumstances appears to have been unknown. Mark, says Mr. M'Nabb, "gives to Rome the eye-witness and ear-witness of Peter." Why did not Peter reveal it himself? Two Epistles are attributed to him. Their genuineness is uncertain, and they mention the Resurrection only in the most casual way. That he supplied the materials of the second Gospel is an inference from a dubious tradition. Luke was, as he himself states, a collector of information. However carefully he worked, he does not even claim to have been an eye-witness. The second-century religious romance called the Fourth Gospel cannot have been written by John the Apostle, and is not available as personal testimony. Paul, says Mr. M'Nabb, was "converted to Christianity by the evidence for the Resurrection"—a rather reckless assertion on the part of one who is familiar with the incident thrice related in the Book of Acts, of which incident the Apostle himself appears to know nothing.

All this cannot reasonably be treated as evidence—certainly it is not first-hand evidence or credible evidence. If similar second-hand testimony were offered in a court of justice it would be at once dismissed as insufficient. Why are Christian apologists content with very inferior evidence in support of miracles? Why do they insist that it is good evidence? Because they have to make the best of a bad job. They have to bolster up tradition. It is difficult to do that and search for truth at the same time.

Mr. M'Nabb's main point is that there is no evidence *against* the Resurrection. Why should there be? The belief did not grow so rapidly as is commonly assumed, and until it became a

recognized doctrine it is unlikely that, in an extremely credulous age, any one would feel disposed to call in question vague floating traditions which could be neither proved nor disproved. So far as I am aware, there is no evidence against the existence of Jupiter or Hercules or Apollo or Osiris or Venus and Adonis, while for their existence there is the belief of millions of people. The argument recalls the Irishman's defence: You say there is a witness who saw me commit the crime; I could bring you fifty persons who did not see me do it. "The facts," says Mr. M'Nabb, "are simple facts like 'John Bull is dead. John Bull was seen and touched. I saw John Bull last Thursday in Commercial Road.' It is precisely on such simple facts as these that the average man and woman are reliable. Listen to them talking, and you will find in their talk little else but these facts."

Macaulay's schoolboy would have been ashamed of this outrageous parody on common sense. Since when have the "average man and woman" been reliable on even simple facts? And what about supernatural "facts"? *Does* any one say he saw a dead man walking about alive? If a man told me such a thing I should certainly not believe him, however "reliable" he might be. Is it evidence to me that some one else, unknown to me and dead long ago, says he saw Jesus alive after death? Mr. M'Nabb seems to be quite unaware that the universal law of death constitutes by itself very strong evidence against alleged exceptions to it. Has he not noticed that not a single Gospel writer says "I saw"? His illustration appears intended to mislead the "average man and woman." The argument is too foolish to deserve the consideration I am giving it.

But there is a still more serious point. Mr. M'Nabb's assertion that there is no evidence against the Resurrection is not true. One would suppose that the incredulity of the Jews need not have been ignored. And, reckless as he is, he must be presumed to be acquainted with the Epistles of St. Paul, the earliest witness to the Resurrection. Does not Paul testify to an existing disbelief in the doctrine—a disbelief which certainly amounts to evidence "against"? Paul, in the course of a curiously ineffective argument for the Resurrection, says to his Corinthian disciples: "How say some among you that there is no resurrection of the dead..... If the dead rise not, then is Christ not raised." The reasoning may be difficult to follow, but the passage conclusively shows that some years before the Gospels were written doubts of the tradition, even denials of any Resurrection at all, were in existence among some of the Christian Churches.

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For the Year 1931

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MAN'S DESIRE FOR IMMORTALITY

By SIR ARTHUR KEITH

THE article which is published here was written under the following circumstances. Last winter, when in Upper Egypt in search of health, a letter reached me from the editor of a daily journal. He proposed that I should open a debate on Immortality. He desired that the doctrine of immortality should be discussed from a biological point of view. He had heard of gland grafting, and had been assured that old men and women had been rejuvenated by modern surgery. He quite justly drew the inference that, if surgeons could obtain such results as they are alleged to have obtained at their first attempts, it was therefore possible, when they mastered their art, that they would ultimately succeed in keeping their patients young and alive for ever.

The immortality which my editor had in mind was quite plainly of the material, fleshly, worldly kind. He evidently believed that there was a hope that modern biology was successfully climbing the tree of life, and that the branch whereon the elixir of immortality grows was almost within its reach. He was, I thought, somewhat selfish in his outlook, because he never suggested that the biologist in climbing the tree of life should bring down anything more than human elixir. A more considerate editor would have thought of man's mortal companions. Dogs, cats, horses, birds, beasts of all kinds, are greedy for life. There should be elixirs for them on the tree of immortality as well as for man. The more one thinks of a material, immortal world the less lovely it becomes. Life without the stirring events of birth, marriage, and death would be a tame affair.

At the time this invitation reached me I had been brooding over the methods by which the ancient Egyptians had sought to satisfy their craving for immortality. It was deeply rooted in them—quite as much so as in ourselves. Apparently they had never sought to obtain everlasting life by the methods of the experimental biologist. Still they had sought for it, and a description of the methods they adopted seemed to me to give a

natural approach to the subject my editor desired me to discuss. So I wrote an article. The editor, quite wisely perhaps, withheld the article from his readers, and confided it to his waste-paper basket. Still, as the thoughts I had given expression to had been honestly come by and were the result of a considerable experience of life, I have thought it worth pains to rescue some of my pages for readers of the RATIONALIST ANNUAL. With this short introduction the trend of my article, here reproduced, will be understood.

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"Fate has been kind to me ; after years of waiting and working it has sent me to the Eldorado of the anthropologist : the land of Egypt—the Valley of the Nile. Only the narrowest fringe of green separates the town in which I write from the river ; behind it, in the desert, is its vast cemetery. Its graves are of many periods ; some are of earliest pre-dynastic times—containing the bones of people who lived on this spot more than 6,000 years ago ; others are of early dynastic or pyramid times, telling us what kind of people lived here at the beginning of the third millennium before Christ. Many date from the periods of Greek and of Roman occupation. Some are of yesterday. The graves of every period, of the most ancient as well as of the most recent, contain the convincing evidence that the dead were laid to rest, not in the *hope* of immortality, but in the most perfect assurance that the dead continued to live. How otherwise are we to explain the practice of the earliest pre-dynastic Egyptians—the rude forerunners of the Egyptian peasants of to-day ? When they dug a hole in the sand and laid the crouched enshrouded corpse within it, they placed with it the full equipment needed by a living man or woman.

"In the early dynastic times this town in Upper Egypt prospered ; in its foundations, under six thick strata containing the debris of a succession of periods, archæologists have exposed the palaces of the merchant princes who traded under the earlier Pharaohs. Wealth did not abate their faith in immortality ; the opposite was the case : it gave them the means of providing eternal homes in the rocks ! In the great sand-stone cliff which flanks the cemetery they caused imposing suites of pillared halls to be cut—not for their bodies, but for their living spirits. The actual grave was cut far beneath the pillared halls, but a shaft permitted easy access for the dead man's 'other-self' to visit them and receive offerings and libations from his surviving family and friends. However ethereal these spirits may have been, they required solid sustenance to secure their continued existence.

"In early dynastic Egypt we see mankind making its

crowning effort to secure immortality of an earthly kind. It was then that the Pharaohs built those homes of immortality we call pyramids. More stone had to be quarried and a vaster army of labour had to be employed in raising the great pyramid of Gizeh than in building the Aswan dam! Even in their search for immortality the great Pharaohs were selfish: they thought of their own future rather than that of the millions who toiled for them. The ancient Babylonians had an equally sturdy belief in the continuation of a material life after the grave had swallowed their bodies. Mr. Leonard Woolley's discoveries in the great death pits at Ur are evidence not only of the strength with which the ancient Babylonians clung to the desire for life, but of their conviction that this desire would never have been grafted in their breasts if life was not continued beyond the grave. The future life they desired was a continuation of the earthly one.

"Modern science is searching for an altogether different way of securing immortality for man—a biological way. Is it possible to so change man's nature that he will retain perpetual youth—that he will escape death and live for ever? Every fact known to me renders such an eventuality impossible; Nature has worked out her highest types—man is one of them—by sacrificing individuals to attain her ideal. Nature's ideal is immortality, but she gives it to the species, not to the individual. To give immortality to individual men and women would destroy every hope we have of evolutionary advancement. The individual who desires perpetual youth has never realized the fact that it would be a sentence of everlasting bondage—an 'imprisonment in the present.'

"Was there not a profound selfishness in the methods by which the pyramid-building Egyptians sought to attain immortality? Think for a moment what the state of England would have been to-day if our successful business ancestors had shared the faith and beliefs of Ancient Egypt. I am not thinking of the labour of millions of lives which would have been wasted to provide eternal homes in stone for the moneyed dead, but that every such home would have taken away from the space available for the living. Our compact modern graveyards are wasteful enough. Is there not something even more selfish in the desire to prolong human life beyond the natural span of three score and ten, to say nothing of the mad desire for individual immortality? If life is an enjoyable feast—I think that most of us find it to be so—is it not rather selfish for us old men and women to wish to continue at table when so many are standing behind us waiting for a seat? A brisk 'turn-over' is Nature's way of doing business, and we must, if we are wise, try to see things from her point of view. It is not the possibility of giving man an earthly immortality

which interests me, but the essential immortality of such a desire.

"The desert provided the ancient Egyptians with illimitable space for the accommodation of the dead ; there was no need to practise economy. In our modern world things have become very different ; we consider only the needs of the living—of those still inhabiting their fleshy tabernacles. Our modern world is based on economical considerations. We can no longer afford to provide the dead with palaces to live in, retinues to wait on them, raiment to clothe them, and food and drink for their spiritual necessities. Our conception of the state in which the dead exist has changed with our economical requirements. We no longer believe in an earthly existence for the dead, but relegate the departed to some uncharted and distant region of space, where material comforts are no longer required. We have escaped from the burdens with which the Egyptians loaded their earthly lives. In this sense the modern belief in immortality is an advance on that held in Ancient Egypt.

"The desire to live causes men to seek for immortality along many different lines of endeavour. The poet, the painter, the musician, and the writer of fiction seek immortality by the exercise of talents which birth and training have given to them. A man builds a hospital, endows a charity, gives a public park to his city, in order that he may continue to live in the esteem of good men long after the grave has closed over him. The man of science, the scholar, the philosopher, the inventor, and the man of business toil that they may meet their daily and yearly liabilities ; but they also labour in the hope that when these present needs are satisfied there will be something over for the common good of the world—something which will give them a lease of life in the minds of the men and women that come after them. These are legitimate modes of seeking for immortality, and fit well into the scheme of our modern civilization.

"Man's deeply rooted desire for immortality springs from his strongest instinct—the instinct of self-preservation. If it is asked, How did man come by this instinct?, the modern biologist has to confess his ignorance. The instinct is as old as life; we cannot conceive any form of living thing continuing to exist unless such a desire is an intrinsic part of its organization. If we are asked, not how the instinct arose in man, but what use is it to him, our answer is very definite. Without an overmastering desire to live and to produce life a people is doomed. In the evolution of every form of life the strengthening of the instinct for self-preservation has been the first requisite. It permeates man's mentality ; his brain has grown up under the pressure of this instinct. It is his

mastering desire ; it moulds his feelings ; it gives a bias to all his thoughts and longings. There must have been a time in the evolution of man when his brain had just risen high enough to catch a glimpse of the facts of life and death. As his brain grew in power I suppose that his imagination, urged on by his instinct for life, found a sedative in the idea of immortality. Such a conception made life tolerable to the untutored faculty of reasoning. Our conception of immortality is a result of intellect grafted on an animal body.

"Far be it from me to ask any man or woman to accept such an explanation of immortality who has faith in revelation or in the teaching of Churches. If they can believe, I would say to them : Go on believing. But for men and women who, like myself, would be guided by reason, and measure truth as revealed to us by the history of living things, there is no option. We have to attach ourselves to the 'Church' which has faith in reason as the interpreter of the universe. I would add to this but one word : A complete faith in the teaching of modern science, that death ends all, far from bringing unrest, brings a mood of perfect repose, and strengthens the desire to make our present life as near a heaven 'as the limitation of human nature will permit.'"

My readers will understand from the above extracts why my article found its way to the editor's waste-paper basket. I had hopes to win his assent to my way of thinking by placing before him another view of immortality. I have said that Nature gives immortality not to the individual, but to the species. I wished to expand this idea, particularly as my studies in Egypt had some bearing on it. I wished to show him that Nature did not give immortality even to the species. In her search for higher ideals she strives to make even the species evanescent and also better. So I continued my article thus :—

"Here in Upper Egypt, better than in any place in the world, can be answered the critical question : Is man, in an earthly sense, really an immortal being? We have a continuous record in this part of the Nile Valley of the people who lived in it for a period of at least six thousand years. The records begin soon after man had embarked on the greatest biological experiment ever attempted in human history—the experiment of civilization. It was in this region of the world, if not actually in the Nile Valley itself, that, some eight or perhaps ten thousand years ago, mankind made the discovery of agriculture upon which our modern civilization is based. The discovery revolutionized the conditions of human life ; from being a wild animal, man became

tame and domesticated, living first in villages, then in cities. From this part of the world the new way of living spread slowly into Asia and into Europe, until all the white and yellow races of mankind became involved in the greatest of all human experiments.

"The question of questions for the modern anthropologist is : What is to be the ultimate effect of civilization on mankind? Here we can study a population which has been the subject of the experiment for at least six thousand years. What has been the result?

"It is usually said that the Egyptian of to-day does not differ from his predecessor of 5,000 years ago. This is both true and false. I have spent these weeks wandering through the peasant villages which flank the green banks of the Nile ; I have spent days in the bazaars of the town, and had opportunities of seeing the men who occupy leading and responsible positions in Egyptian communities. In all official positions I find men who are no doubt loyal and patriotic Egyptians, yet they are not pure natives of the Nile Valley. They show most unmistakable signs of Turkish, Syrian, or Arabic admixtures ; the true Egyptian, the Egyptian of earliest dynastic times, still has a place—a minor one—among the leading and governing classes, but these classes are certainly not what they were in the times of the Pharaohs. In its physical constitution the ruling class of Egypt has changed, and has changed very greatly.

"After all, the essential Egyptian is the peasant ; he and his family form ninety per cent of the population. He has remained almost unchanged ; his skull and bones differ only in matters of minute detail from those of his ancestors buried in pre-dynastic graves.

"The Egyptian fellahin, then, has emerged from the prolonged ordeal of civilization—or domestication—with his love of life unabated. He is sound in wind and limb. His fertility is undamaged ; the villages swarm with children.

"But have 6,000 years of civilization made the inhabitants of the Nile Valley, in any sense, a higher and better people than the stock from which they issued? Is there any sign of a higher type being in the course of evolution? The opposite, I think, is true ; civilization, as it has worked out its effects in the Nile Valley, has tended to perpetuate those who willingly bend their necks to the yoke of civilization, and to exterminate the discontents who would strive for higher things.

"Six thousand years of civilization have not evolved a higher type of humanity here. Will the result be different in England, when her still youthful population has gone through six thousand years of the great experiment? Will

the result in our case be a fertile mediocrity? We must mind our steps if we wish for higher things."

I wonder if I was right in rescuing these sheets from the editor's W.P.B. There is one sentence, at least, which may be called in question by men of science of the highest standing. The sentence is: "A complete faith in the teaching of modern science, that death ends all." This belief is the bed-rock of my creed, and, as I have said, makes me content to accept everlasting sleep as my reward for the task of life. This belief is founded on our modern conception of living matter—whether that matter be part of the body of an amoeba or of a human being. Every endeavour we make in modern medicine—in our treatment of the sick, in our experiments in physiological laboratories, in every form of biological inquiry—is based on the assumption that life is a manifestation of energy, of energy contained in matter, and that energy and matter are one. It is only when we proceed in our inquiries on this assumption that we meet with success. On the other hand, the popular belief is that all living things are made up of two separable constituents—a material and an ethereal—the ethereal entering the material at conception and leaving it at the event we call death. No one who is familiar with the facts of generation and dissolution of the human body can share such a belief, and yet it is just this belief that some modern physicists, such as my distinguished friend Sir Oliver Lodge, wish to reinstate as a working hypothesis in biology. Life, if I understand him aright, is something which comes out of space and, having seized on matter, becomes manifest to us. When it again retires into space the matter it inhabited then assumes its former state—that of "death." Even if we accept Sir Oliver Lodge's conception of life—and I have no hope of biologists becoming converts to his way of thinking—his conception of immortality and mine really do not differ very greatly. Sir Oliver believes we return to space when we die; I believe we return to dust. In this sense we both believe in immortality.

ON THE NEED FOR A MILITANT RATIONALISM

By PROFESSOR H. J. LASKI

THE growth of religious indifference is one of the salient phenomena of our time. There is no Church, that of Rome conceivably apart, which has not to report both loss of membership and loss of candidates for its ministry. They are powerless to attract a congregation in the face of competition from secular amusements. Their functionaries have none of the sturdy confidence in their dogmas which was characteristic of their teaching in the last century. The growth of mysticism and of superstitious faiths like Christian Science is proof, as always, that the central creeds are permanently on the decline.

Yet I do not think it can be said that Rationalists are pressing home the challenge to its full and logical conclusion. The case for Reason suffers from the quietude of its advocates. There is a lack of that ardent sense of a duty to attack the citadel of belief which it is difficult not to regard as a proof of weakness. Anyone who has studied the history of nineteenth-century Rationalism will be aware that its victories were the outcome of the ardour of its protagonists. Men like Bradlaugh and Huxley, Leslie Stephen and Kingdon Clifford, regarded its service as a moral obligation. We need to recover that militant temper if we are to destroy the lingering consequences of ecclesiasticism in modern society.

For those consequences are still written large in our social system. In education, in public morals, even in institutional organization, the State pays humble deference to the demands of the Church. We cannot get an adequate educational system because the Church of England and the Church of Rome demand (and receive) their separate schools. Their members are active to defend their claims before political parties; Rationalists are weakly organized in their effort to insist upon the secular solution. We cannot get a decent divorce law because, again, the influence of the Churches is paramount. We cannot get a serious and scientific discussion of birth control because the Churches interpose dead dogma in the way of social need. Every prison must be equipped with its chaplains; though no evidence exists to show that

they have ever been effective in the reform of the criminal. Every regiment and every naval vessel must have its chaplain ; though the evidence is overwhelming that army and navy alike regard their religious exercises, for the most part, as an irritating obligation from which they would gladly be free. The Churches still dominate the older universities ; at Oxford and Cambridge every college still has its chaplain and its don in Holy Orders, while at Oxford every theological professor must still be a priest in the Church of England—on the assumption, clearly, that Anglican theology is still synonymous with scientific theology. That all this should be the case when not a single dogma of the Church remains acceptable in the light of criticism will, a century from now, remain literally incredible to the historian who writes the sequel to Mr. Robertson's classical volumes.

What is the explanation ? It is not, I think, simple. Partly, it lies in the fact that all endowed institutions live on after their utility has disappeared simply because they are endowed. If the Church of England had to start financially afresh to-morrow, I hazard the judgment that it would quickly be in poor case. Partly, again, it is because the Churches protect, by their influence and outlook, the existing social fabric ; their guarantee of a life to come is acceptable to thousands, despite its lack of rational basis, as a compensation for the sufferings of this life. Partly, once more, the Churches are great property-owners. As such there accretes about them respectability ; and they exercise the social prestige which always accompanies the occupancy of a respectable position.

But, above all, perhaps, I think their authority is derived from the fact that their membership is militant and organized. Rationalists are conscious neither of their numbers nor their contingent power. They are, for the most part, indifferent to religious questions. They have made up their own minds about them ; they are tolerant of the religious outlook ; and they feel that time is on their side. They have seen great victories for Rationalism in the face of bitter religious prejudice ; Darwin, after all, himself an Agnostic, lies buried in Westminster Abbey. They tend to believe that the mere growth of religious indifference is equivalent to Rationalist victories. They are content to watch ecclesiastical evolution with the serene confidence that its ultimate erosion is inevitable.

I believe this to be not merely a mistaken attitude ; I think it is also one which results in grave social loss. It would be difficult, for example, to over-estimate the unhappiness which results from our obsolete divorce laws. That people of incompatible temperament should, especially where there are no children, remain compulsorily tied together ; that neither

hopeless insanity nor infection with syphilis should be a cause for divorce—these seem to be the refinement of cruelty. The Anglican Churches have recently made a tentative and hesitating move towards the recognition of birth control ; but they cannot, by the very nature of their being, see it in its proper perspective as the vital condition of a free and healthy womanhood in society. The tacit acceptance by Rationalists of the Christian view of sex is, I think, one of the essential reasons why no political party can face the problem of birth control in scientific terms. On the side of education, again, it is well known that the voluntary schools are, neither in equipment nor in teaching, the equal of the State schools. It is well known, also, that teachers as an organized body infinitely prefer service in the latter to service in the former. Yet because, once more, Rationalists are acquiescent and unorganized, no Government can propose educational developments except upon the basis of retaining the voluntary schools. It does so even while it knows that the children who attend them will not only receive a less adequate education than a Council school will give, but also that the child will be indoctrinated with ideas it is unable to understand, and from which, in after life, it will only with pain and difficulty be able to shake itself free. When the Royal Commission inquired into Oxford and Cambridge no Rationalists appeared before it to question the predominance there of the Established Church. Yet I venture to believe that it is exactly this predominance which is responsible for the fact that so few of the great figures in the history of religious criticism have come from either Oxford or Cambridge. On other terms, we too might have had our Baur and Strauss, our Renan and our Wellhausen.

My plea is that our indifference awards to the Churches an influence out of all proportion to their actual strength. Some of its consequences are ludicrous. We can get money from the prison commissioners for religious services, but not for adult education. Religious training in the Army and Navy is old and expensive ; education there, on any serious footing, is only at the beginning of its history. These are small things, but they are indicative. They illustrate the same temper which has failed to remove the iniquitous Blasphemy Laws from the statute-book, and that after a discussion in which no member, including the law officer of the Crown, who opposed their repeal, was able to state their substance correctly. It was assumed that it ought to remain an offence to cause pain to citizens of a religious outlook ; but there is no legal limit to the insults which religionists of every school can cast, with impunity, upon persons who dissent from any faith.

The business of the State is surely to remain indifferent to, and neutral between, religious organizations in society. That means, on any logical view, Disestablishment, and a refusal to allow political institutions for the support of which the State is even partly responsible to be coloured with a religious complexion. The secular State, in a word, is the obvious implication of any social system which seriously pretends to believe in toleration. How far, in fact, we are from that condition the statute-book bears witness. And the substance of the statute-book makes its impact upon every nook and cranny of social life. It ruined the career of Sir Charles Dilke by making him the victim of a social outlawry it is impossible to defend in ethical terms. It prevents the access of a genuinely critical temper from invading our schools. What would happen, for instance, even in a Council school, to a teacher who, during a Scripture lesson, told his class that there were eminent scholars who denied the historicity of Christ? It makes of sex something dubious and furtive; with the result that few children grow up to whom its consequences are revealed as a natural and healthy manifestation of instinct, not seldom to their grave psychological injury. In many cities, like Manchester for instance, the playing fields are closed to children and adults on Sunday in order that the Church view of the use to which Sunday should be put may certainly prevail. If I am a rich man, I may play tennis or cricket or golf on Sunday in my private club, where the Church has no authority; but, if I am poor, my habits must compulsorily conform to the ecclesiastical theory of what my habits ought to be.

The view I am here concerned to maintain is simply that the disproportionate influence of the Churches will persist until Rationalists recover their militant temper. They must be willing to bear witness to their faith. They must be prepared to press home its social and political implications. They have a duty to truth which can only be performed by their insistence, in season and out of season, upon its consequences. For we may be sure that, of itself, truth will not prevail. The vested interests which are massed against it are sleepless and powerful. Our indifference is the real measure of their strength. Our acquiescence in their authority is the real basis of their survival.

What, as I think, Rationalists must seek to do is to make effectively known at critical points the meaning of their attitude to life. They cannot afford to remain a small and learned body whose criticisms are mainly known to themselves. They cannot afford, either, to believe that the mere analysis of the intellectual foundations of Christianity will result, of itself, in the destruction of its power. We require that eager

and urgent temper which, in the nineteenth century, made men see in the battles which waged around such things as evolution and the historicity of the New Testament cardinal matters for the future of mankind. Alongside the ethic of Christianity we need to develop the humanist ethic of Rationalism. To each campaign in defence of some Church interest we need a campaign to develop the Rationalist outlook about that interest. We must assure, so far as we can assure, the continuance of that race of great scholars of whom, to-day, Mr. J. M. Robertson is the most eminent living representative. We must persuade other thinkers of like standing to emulate the courage of men like Mr. Bertrand Russell, and define their attitude to these issues with that same eloquent sanity which has enabled him to win so wide an influence over the younger generation. We must see to it that on no substantial point of policy does Parliament remain ignorant of the Rationalist outlook ; and we must play our part locally so that municipal bodies, whether in small matters like Sunday games or bigger issues like library policy, are not unduly influenced by ecclesiastical pressure.

No one, of course, who is at all intimately acquainted with the history of Rationalist effort in the last twenty-five years can have feelings other than those of humble admiration for its quality. It is the Rationalists who are content to remain outside the Movement who constitute its great weakness. They have profited from the effort of dead pioneers without making any effort at a return. And only less ineffective are the men of science who either belittle the consequences of the scientific habit of mind or announce "reconciliations" between science and religion, all of which are based, when analysed, on a *petitio principii*. For, if by religion we mean Matthew Arnold's power not ourselves making for righteousness, science gives no evidence whatever of such a power. We are not entitled to use our ignorance to make assumptions in the realm of faith which cannot be tested by the ordinary canons of evidence. Yet there are many men of science, especially in the United States, who are willing to make pronouncements of this kind. They secure, I think they also enjoy, immense publicity ; and the Churches reap the increase of their pathetic temporizing. For it would be difficult to over-estimate the skill of ecclesiasticism in turning the flank of the Rationalist attack. Every scientific doubt of some cardinal doctrine—the modern attitude, for instance, to Darwinism ; every philosophy which, like that of Bergson, exalts intuition at the expense of reason ; every archæological discovery which provides material evidence of a basis for some folk-legend : these are utilized to prove that the tide of battle has turned in the Church's favour. And, unless

Rationalists are equally active in the statement of their case, the common man assumes either that the Churches are right, or that the problems in debate are not of decisive importance.

But, in fact, their importance is momentous. We have either to build our lives upon a body of dogma unrelated to modern scientific discovery, or we must seek to adjust our canons of behaviour to the principles which accumulate as research moves on its way. The only truths we are entitled to regard as binding are those which are intellectually inescapable. Most Christian dogmas are, indeed, a response to particular historical circumstances as remote as possible from the contemporary environment ; many of them depend upon evidence which will not stand any serious criticism. Only too often, where Christian teaching represents high ethical precept, the Churches have done little or nothing to enforce compliance with it. The attitude of the Churches, Rome included, to the negro in the Southern States of America is a glaring denial of the famous maxim, "There shall be neither Jew nor Greek, bond nor free." The vulgar patriotism displayed by eminent Churchmen during the War, and in all countries, was a curious example of an atavistic effort to transform a God whose main value was his universality into a tribal possession whose main value was his power to help his own particular people. It is because the truth does make us free that the truth must come to be known. Largely, it still remains an undiscovered country to the average man. Largely, also, it does not pay to make it known because the vested interests it would disturb are so immense. The only way I can see to make it effective is that the Rationalist should have a sense of obligation to its service as one of the outstanding principles in his life.

No one, moreover, who considers the history of Free-thought can doubt the immense effect that sense of obligation has when it is accompanied with intelligent use. Lord Morley has somewhere written that the eighteenth century was Voltaire ; certainly after his battle with the forces of darkness the world had become a better and more intelligent place. So, also, I believe, the little knot of working-men Free-thinkers who printed their cheap editions of Holbach and Paine as a service to intellectual emancipation were repaid amply for their sufferings by the tangible results of their effort. Charles Bradlaugh died before I was born ; but anyone who meets working men whose first contact with Rationalism was through his lectures realizes vividly the profound sense of emancipation that he conferred. Practically every record we have of the history of men who have turned from the service of faith to the service of reason is one of wider horizons and ampler freedom.

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And it is upon the note of freedom that I would end. I believe that the greatest disservice religion renders to mankind is its persuasion to accept a needless fate without examination of wider possibilities. They accept unnecessary pain as their inevitable lot. They are persuaded that what they are and what they may become an all-wise Providence has decreed ; and they count upon the joys of the next world to compensate them for their earthly sufferings. The real indictment of religion is not that it has persecuted mercilessly in the interests of what is now known to be untrue ; the real indictment is that it has fettered at every turn the effort of the human spirit to emancipate itself. To do so it has opposed the advance of knowledge and the improvement of social conditions. It has refused to welcome the spirit of free inquiry. It has always placed itself at the disposal of those in power, regardless of the interests they sought to serve. Religion has always been a specific against popular unrest, and that without regard to the objects that popular unrest has been anxious to secure.

That is why Rationalism and freedom are twin-sisters : the service of the one is the service of the other. It is not an accident that the history of Freethought coincides with the history of democratic advance ; for every release from the trammels of ecclesiasticism has been also an increase in the spiritual stature of mankind. The Rationalist, therefore, who fights for the wider acceptance of his outlook is, by definition, advancing the frontiers of freedom. He makes possible the denial of imperatives which only too often cripple personality and destroy in those over whom they operate the sense that they have the right to shape their own destiny. But when he turns away from the battle he is, in sober fact, a soldier upon the other side. For the victories of superstition have not been the consequence of its strength ; they have been the outcome of indifference to the issue among those who could measure its importance.

GOD-MAKERS

By PROFESSOR J. B. S. HALDANE

I AM fond of honorific titles, and I think that life has lost slightly in picturesqueness by their obsolescence. Besides his Majesty the King, his Holiness the Pope, and his Worship the Mayor, I should like to be able to speak of his Ferocity the Major-General, his Velocity the Air-Marshal, and his Impiety the President of the R. P. A. Nevertheless, the most magnificent of all such titles belongs to a past which is not likely to be revived. It occurs in an inscription erected in honour of the Roman emperors Diocletian and Maximian, who are described as "*Diis genitis, deorum creatoribus*"—that is to say, "Begotten by gods, creators of gods." In those happy days the path to divinity was easier than in our irreligious age. A claim to divine descent might be made on somewhat slender grounds; but, as Diocletian and Maximian named their successors, who, unless deposed during their lifetime, automatically became gods on dying, they could quite legitimately be claimed as god-makers.

It is only when we remember that they were first promulgated in an age of easy deification that we can properly assess the Christian dogmas of the divinity of Christ and the semi-divinity of Mary. At that time there was nothing in such assertions to surprise their pagan hearers, though unbelieving Jews might take a different view; and, as a God, Christ was clearly an improvement on Claudius or Hadrian. But if Christianity was probably the best of a number of competing creeds, it was also the product of an age when the moral and intellectual levels of the group of humanity round the Mediterranean were low—a fact sufficiently attested by their habit of indiscriminate god-making.

The saints, who perform so many of the minor functions of divinity in the Catholic scheme, are rather a mixed lot. Some men and women have achieved sanctity by virtue, others by hypocrisy, some again by sheer luck. Of this latter goodly fellowship none stand higher than St. Protasus and St. Gervaise. These worthy men (or possibly women, for, as we shall see, less is known about them than one might suppose) lived in northern Italy in late palæolithic times, some ten to thirty thousand years ago, and died after doubtless

unusually blameless lives. We do not know whether their beliefs on unascertainable matters were so coherent as to be dignified by the name of a religion. But they, or at least those who buried them, can hardly have believed that death was the end of Man's individual existence. For they took a great deal of trouble with corpses. First, the flesh was removed from the bones. They may have allowed it to decay, and have dug the skeleton up again after the lapse of some time. It is also possible that they stripped it from the bones soon after death. In this case it was probably eaten, at least in part, the meal being of a sacramental character, as still with some primitive peoples. If so, perhaps we must credit the eaters with religion of a kind, for the simple and materialistic belief that you can enter into communion with another person by eating him is at the basis of the most powerful religion of to-day.

The skeletons underwent a further treatment. Their heads were removed, and then the various bones were smeared with red ochre. We do not know the reasons for the first operation. Perhaps it was done to prevent the ghosts of the dead from walking. The meaning of the second is more obvious. The blood, as Holy Writ informs us, is the life. So, for a future life future blood is necessary. Ochre is a very good substitute for blood. It is red, and, not being susceptible of decay, may serve as a respiratory pigment during an eternal life. Moreover, recent biochemical research has demonstrated its peculiar suitability as a catalyst for those oxidations which are perhaps even more important in the future life than the present one. For spirit means breath, and the essential function of breathing is to supply oxygen.

Like the owners of other skeletons similarly fortified with red ochre (and many such have been found round Milan), the souls of Gervaise and Protasus, we may hope, chased the aurochs and the wild horse across the happy hunting-grounds, and tracked the woolly rhinoceros to his lair in the Elysian swamps. But faith can work miracles, even on a woolly rhinoceros. Just as it can turn water into wine, and wine into blood (in spite of the fact that œnin, the pigment of grapeskins, unlike chlorophyll, that of leaves, stands in no chemical relationship to hæmoglobin), so it can convert a woolly rhinoceros into a dragon. For in the town hall at Klagenfurt, in Carinthia, stands, or stood till recently, the skull of a woolly rhinoceros. To be more precise, the infidel palæontologist would assign it to *Rhinoceros tichorinus*; but the noble knight who slew the dire monster in question said it was a dragon, and he ought to have known. Perhaps he really did kill the last survivor of this species. But more probably it had been extinct for some thousands of years, in

which case it is not inconceivable that one of his villeins dug up the skull in his back garden.

Now, if the faith of a quite ordinary knight can transform a woolly rhinoceros into a dragon, why should not that of a particularly holy bishop convert two of its hunters into saints? At any rate, it did so. For a hundred centuries or more the spirits of Gervaise and Protasus hunted their ghostly quarry. But one day their pleasant, if monotonous, existence was sharply interrupted. Two angels appeared, and bore them away, perhaps slightly protesting, to the Christian heaven, where their spears were exchanged for harps and their skins for crowns. As they almost instantly began to work miracles in response to the prayers of the faithful, it appears that they must have adapted themselves to their new conditions more rapidly than might have been expected. Of course, several other cases have been recorded in which souls have gone to an apparently inappropriate heaven. Such were the souls of the penguins whose baptism by the myopic St. Maël is reported by Anatole France, and that of the Christian knight Donander, which, as Cabell tells us, in that most indecent, blasphemous, and amusing book, *The Silver Stallion*, was transported to Valhalla by an unfortunate oversight, and subsequently elevated to Asgard on physiological grounds. And in our own days a respectable German medical officer of health has found himself in the Shinto heaven with Amaterasu and the divine Emperors. Robert Koch, the discoverer of the tubercle and cholera bacilli, and the joint founder with Pasteur of bacteriology, is worshipped as a god in at least one Japanese laboratory. It must at once be admitted that he appears to be quite an efficient god. Japan has produced a number of really excellent bacteriologists. But perhaps in another fifty years bacteriology may no longer be as important in medicine as it is now, and the divine Koch, like older gods, may prove a hindrance to medical progress by diverting effort into ineffective channels.

Spiritual events often have material causes, and we must now trace the mundane events which enriched heaven with its only palæolithic saints. St. Ambrose was one of the first batch of well-born Romans who, after its establishment as the State religion, entered the ministry of the Christian Church as a career. Like myself, he was unbaptized at the age of thirty-four; but, unlike me, he became a bishop before the application of that sacrament. He was not only a very able statesman, but a good poet—one of the pioneers of rhyming verse in Latin. In the year 385 A.D. he came into conflict with the secular authorities. The Dowager Empress Justina was an Arian, and demanded the use of a church in Milan for her co-religionists. The history of

her conflict with Ambrose has been told by Gibbon in his twenty-seventh chapter. I shall not attempt to tell it again in detail.

Ambrose's tactics resembled those of Mr. Gandhi to-day. While comparing the Empress to Jezebel and Herodias, he affected to deplore the rioting to which his language inevitably led. His methods were successful. The imperial court left Milan, and promulgated an edict of toleration for Arianism. The saint's protest against this tyrannical law led to a sentence of banishment. He blockaded himself in the cathedral with a pious bodyguard, including St. Augustine's mother, who kept up their spirits by singing his newly invented rhyming hymns, which brought frequent tears to the eyes of the future Saint Augustine, who had recently been baptized.

During the siege, in response to a vision, he dug for the bones of Gervaise and Protasus. They were found under a church floor, and it was revealed to St. Ambrose that they had suffered martyrdom as Christians under Nero. The multitude were impressed not only by the miraculous freshness of the respiratory pigment of the martyrs, but by the large size of their bones. The Cro-Magnon race, to which the martyrs probably belonged, were, of course, very tall. The bones were carried with due pomp to the Ambrosian basilica. On the way a number of demons were expelled from lunatics, and a man called Severus, who had been blind for some years, was cured on touching the bier of the saints. St. Augustine was in Milan at the time, and records these miracles, which were entirely successful in reinforcing the effect of the hymns. The soldiers did not dare to risk the bloodshed which would have been necessary to effect the capture of St. Ambrose. Shortly afterwards the edict of toleration in favour of the Arians was withdrawn, and the illustrious examples of Gervaise and Protasus did much to confirm the general belief in the efficacy of relics. It only remains to add that twenty-four years after the discovery of the palæolithic saints Rome was sacked by the Arian Goths. This time the trinitarian saints were unable to rise to the occasion. Alaric was made of different stuff from Justina.

But saints are, after all, not gods; and a similar story, though involving a different red pigment, comes down to us from an age nearer to our own. At the Last Supper Jesus is reported to have said of the bread and wine: "Take, eat; this is my body," and "This is my blood of the New Testament, which is shed for many."

Personally, I am not one of those who find it probable that Jesus is a mainly mythical figure. A large number of his sayings seem to me to cohere as expressions of a definite and quite human character, which could hardly have been

invented by disciples who wished to prove his divinity. He used figurative language about himself, calling himself, for example, the door and the vine. His self-identification with bread and wine is on a par with these utterances. But by a more or less fortuitous chain of events it has been taken much more seriously. One can imagine developments of Christianity in which every church door or every vine was identified with Jesus, as a pious Hindu may identify every cow with Agni. The actual form of the transubstantiation dogma appears to be due to three facts—the type of mystery religion flourishing in the early days of Christianity, the peculiarities of Latin and Greek grammar, and the activities of a particular god-making bacillus, which, besides upholding the views of the Angelic Doctor, St. Thomas Aquinas, founded a college at each of our two older universities.

The importance of sacramental meals in mystery religions has been sufficiently stressed by others. If to-day we find it difficult to imagine how so much emotion could gather round the act of eating, we must remember that the majority of the early Christians were so poor as to have first-hand experience of real hunger. To most of them food must have presented itself not as a source of mildly pleasant sensations, but vividly as a life-giver.

Once Jesus had been identified with the sacramental meal, it was inevitable that some theory of that identity should be developed. The philosophers got busy. The only tools of philosophers, until very recently, were words, and the art of using words correctly was called "logic." In fact, words are well adapted for description and the arousing of emotion, but for many kinds of precise thought other symbols are much better. Russell and Whitehead were perhaps the first philosophers to take this fact seriously. But a perusal of their books makes it clear that even a greatly improved symbolism leaves room for a very comprehensive disagreement on fundamental tenets.

The European languages are characterized by a highly developed system of adjectives. For example, an Arab, instead of describing the Board of the R. P. A. as infidel men, would call them fathers of infidelity; and I gather that a Chinese might also avoid the use of an adjective in a somewhat untranslatable manner. Now, the philosophy of the Middle Ages was the work of men who were ignorant of nature, but learned in Latin grammar. Neglecting the verbs, they tried to describe the universe in terms of substantives and adjectives, to which they attributed an independent existence under the names of substances and accidents or attributes. Modern physicists are engaged in a somewhat similar attempt to describe it in terms of verbs only, their

favourite verb at the moment being to undulate, or wiggle. They are not concerned with what wiggles. .

The scholastic philosophy, like any other, led to results calculated to alarm the pious. The soul was in danger of becoming a mere adjective of the body, and was therefore relegated to a special category of "substantial forms," thus rendering it sufficiently durable to withstand eternal punishment. With such highly developed attributes, substance might have disappeared altogether had not a place been found for it by the genius of St. Thomas Aquinas. St. Thomas, it is said, was one of the fattest men who ever lived, and in his latter years could carry out the ritual of the Mass only at a specially constructed concave altar. Hence his capacity for levitation was even more miraculous than that of lighter saints. In spite of the distance which separated him, in middle age, from the consecrated elements, he was able to observe that no perceptible change occurred when the bread and wine were converted into the body and blood of Christ. Very well, said he, in an excellent hymn, most inadequately rendered in the English hymn book: "*Praestet fides supplementum sensuum defectui*" (Let faith supplement the deficiency of the senses). It did. At the critical moment the substance of the bread and wine was converted into God; but, as all the accidents were unaltered, no perceptible difference occurred. Fortunately, he did not draw the full consequences from his theory. For, if no one could notice the difference when a piece of bread is converted into God, it would appear that the converse operation might also be imperceptible, and no one would notice any change if the object of St. Thomas's worship were converted into a wafer or some other inanimate object. It is also interesting to note that, while St. Thomas was a realist about things in general, he anticipated the views of Bishop Berkeley when it came to the consecrated elements. For he believed that their sensible qualities were directly caused and supported by the deity latent in them.

Now, the dogma of transubstantiation, which needed such strange intellectual props, was not merely based, like many theological dogmas, on traditions of past events which had been brooded over by successive generations of the pious. It was grounded on a series of very well-attested miracles. Not only had individual ecstasies seen visions of Jesus in the host, but large numbers of people had seen hosts bleeding. The first of such events which is known to me occurred in England about 900 A.D., in the presence of Archbishop Odo. Among the most famous is the miracle of Bolsena, which is portrayed in Raphael's well-known picture, and converted a priest who doubted transubstantiation. Allowing for a certain

amount of exaggeration for the glory of God, I see no reason to disbelieve in these miracles. Their nature becomes very probable from the way in which they tended to occur in series, especially in Belgium. A "bleeding host" appeared in a certain church. The faithful went to adore it, and fairly soon others appeared in the vicinity. There is very strong reason to suppose that we have to deal with an outbreak of infection of bread by *Bacillus prodigiosus* (the miraculous bacillus), which would naturally be spread by human contacts. This organism grows readily on bread, and produces red patches, which the eye of faith might well take for blood.

The miracle of Bolsena appears to have finally converted Pope Urban IV to the views, not only of St. Thomas, but of his contemporary, St. Juliana of Liège, one of the two women who have initiated important changes in Catholic practice, the other being St. Marie Marguerite Alacoque, the initiator of the cult of the Sacred Heart. St. Juliana had a vision of the moon with a black spot on it, and was told that the moon signified the Church, the spot being the absence of a special cult of Christ's body. As a result of this vision the Bishop of Liège instituted the feast of Corpus Christi, and in 1264 Pope Urban IV, who had been Archdeacon of Liège, made its celebration compulsory throughout Western Europe. The office for the feast was written by St. Thomas Aquinas. In honour of Christ's body a college was founded at Cambridge within the next century, though the corresponding establishment at Oxford dates back only to shortly before the Reformation. There is no record of what St. Juliana said to the angel who told her about the activities of the poet Kit Marlowe, student of Corpus Christi College, Cambridge. For it appears from the record of his "damnable opinion" that he was a remarkably militant Rationalist, while a spy stated that he was "able to shewe more sound reasons for Atheisme than any devine in Englande is able to geve to prove devinitie." Perhaps, however, such things are kept from the ears of the blessed.

Unfortunately, *Bacillus prodigiosus* did not confine its efforts to inspiring queer metaphysics and founding colleges. If a bleeding host was God's body, any bit of bread which appeared to bleed was a host, presumably stolen and desecrated. Throughout the ages of faith the same incidents re-occurred. A piece of bread in a house started to "bleed." An informer, generally a servant, went to the authorities. The family were tortured, and finally confessed to having stolen or bought a consecrated wafer and run daggers through it. They were then generally burned alive. Such an incident was often a signal for a massacre of Jews, as in the pogrom of 1370, commemorated in the disgusting

stained-glass windows of the cathedral of Ste. Gudule at Brussels, and in the French outbreaks of 1290 and 1433. Sometimes the victims were Gentiles, as in the case recorded by Paolo Uccello in a series of panels which were on view at the London exhibition of Italian painting in 1930. Doubtless among them were a few fools who were genuinely celebrating black masses ; but the emphasis laid on the blood in contemporary accounts seems to incriminate *Bacillus prodigiosus*. In England the belief in transubstantiation ceased abruptly in the sixteenth century to be part of the law of the land. " Hoc est corpus " became *hocus pocus*. But in France the attempt to make injuries to consecrated wafers a capital offence, as deicide, was one of the causes of the revolution of 1830.

So much for *Bacillus prodigiosus*, an organism which produced a delusion more serious than many diseases. But this god-making tendency seems to be one of the more unfortunate vices to which the human intellect is subject. We cannot observe a remarkable phenomenon without postulating something behind it. So far, so good ; but we then proceed, if we are not careful, to endow that something with a personality, and deduce the oddest ethical implications—for example, that it is wrong to stick knives through certain pieces of bread. The same tendency operates in the sphere of science. A generalization is made from certain facts, and called a Law of Nature. This is then supposed to acquire, in some quite unexplained way, an ethical value, and to become a norm for conduct. Thus Darwin stated, probably quite correctly, that evolution had been mainly due to natural selection—i.e., the elimination of certain individuals, called the unfit, in each generation. The obvious comment was : " So much the worse for nature ; let us try to control evolution in some other way." But a number of theorists, including even a few second-rate biologists, seem to have regarded it as an excuse for imitating nature. The weak, it was said, should be eliminated in various ways, and various forms of internecine struggle, from war to economic competition, were justified by an appeal to nature, which was only justifiable if nature represented God's unalterable plan—a view which these writers did not generally hold. The fact that in most civilized communities the poor breed more quickly than the rich shows that, from a Darwinian point of view, the poor are on the whole fit and the rich unfit. To call the rapidly breeding sections of the community unfit is certainly bad Darwinism. They may be undesirable, but that is another matter. To attempt to suppress them in the name of Darwinism is an example of muddled thinking arising out of a partial deification of a law of nature.

Is the god-making tendency ineradicable, or may we

hope that it will gradually die out or be sublimated into other channels? As long as it goes on there is very little chance for the development of a rational ethic based on the observable consequences of our actions. To answer this question one must consider the most important grounds for Atheism. Perhaps the simplest hypothesis about the universe is that it has been designed by an almighty and intelligent creator. Darwin showed that much of the apparent design could be explained otherwise; but there still remains a group of facts, such as those collected by L. J. Henderson in *The Fitness of the Environment*, which are at present more readily conformable with the design theory than with any other. It is on the ethical side that Theism has broken down most completely. For an almighty and all-knowing creator cannot also be all-good. It has only been possible to believe in all-powerful gods by attributing to them one or more of the seven deadly sins. The Græco-Roman gods were at first conceived of as sharing all man's moral infirmities. Later, as their characters were idealized, their failure to improve matters here below was attributed to what was essentially sloth rather than active cruelty.

With Christianity the deity became more actively interested in human affairs, and it was necessary to attribute to him the darker defects of pride and wrath. His pride was particularly offended by the attempts of Satan and Adam to become like him, and his wrath visited the sin of the latter upon his descendants during thousands of years. A robust spirit like Thomas Paine could still see justice in the universe. It is to more delicate minds like that of Shelley that we look for the development of Atheism on ethical grounds. The turning-point came, perhaps, when, under the influence of the Utilitarians, the State set itself to be less cruel than nature or the hell-filling god of the clergy. We do not condemn our worst criminals to anything as bad as an inoperable cancer involving a nerve trunk. Dartmoor, our nearest equivalent to hell, has its alleviations, and, what is more, a hope of ultimate release. It became impossible to believe that the creator of the universe, even of a universe which did not include hell, was worthy of our moral admiration.

Christianity had, of course, attempted to meet such a criticism by the doctrine that God had become a man and suffered with men. This defence is based on the celebrated hypothesis that two blacks make a white, known to moralists as the retributive theory of punishment. The theory that a wrong act deserves the infliction of suffering is part of Christian ethics, and is responsible for any amount of cruelty even to-day. And the participation of God in human suffering, while admirable in a finite deity like Heracles, does not

absolve an almighty power from the blame of having created suffering humanity.

Our present-day Theists generally find two ways out of the dilemma. Either suffering is needed to perfect human character, or God is not almighty. The former theory is disproved by the fact that some people who have suffered very little, but have been fortunate in their ancestry and education, have very fine characters. The objection to the second is that it is only in connection with the universe as a whole that there is any intellectual gap to be filled by the postulation of a deity. And a creator could presumably create, whatever he or it wanted. The evolution of life on earth can be pretty satisfactorily explained if we make certain assumptions about matter and life. The origin of the heavenly bodies presents greater difficulties, as will be apparent to any reader of Jeans's *The Universe Around Us*. The theory of creation is essentially a refusal to think back beyond a certain time in the past when it becomes difficult to follow the chain of causation. To hold such a belief is, therefore, always an excuse for intellectual laziness, and generally a sign of it. Probably we are waiting for a new Darwin to explain stellar evolution. But meanwhile an almighty deity would at least explain the apparent irreversibility of natural processes, while a finite deity struggling against the imperfections of matter would explain nothing whatever; and I know of no scientific facts which point to such a hypothesis. Humanity, or any other aggregate of such a kind, may very well take the place of god in an ethical system, but is not a god in any intelligible sense of that term.

Hence, so long as, on the one hand, scientific knowledge is preserved and expanded, and on the other man keeps his ethical standards above those of nature, the prospects for god-makers are by no means as rosy as they were in the past. I do not, however, think that the only alternatives to Theism are Agnosticism or any of the various forms of Materialism, even though I should call myself an Agnostic if forced to classify myself. There is a great deal of evidence that the universe as a whole possesses certain characters in common with the human mind. The Materialist can agree with this statement, as he regards the mind as a special aspect of one small fraction of the universe in physical relation with the rest. The idealist regards our knowledge of mind as knowledge from inside, and therefore more satisfactory than our knowledge of matter. Unfortunately, there is a tendency to identify the absolute—i.e., the universe considered in its mind-like aspect—as in some sort an equivalent of God. I cannot see the cogency of this view. The absolute is not a creator, nor a soul animating otherwise inert matter, but

just the universe looked at from the most comprehensive possible point of view. It cannot be identified with any of its constituents, though in the opinion of absolute idealists the human mind is more like it than is any other known finite existent.

Such a philosophy does, as a matter of fact, supply a fairly satisfactory emotional substitute for Theism. It leads one to feel at home in the universe, and yet does not lend itself readily to the attribution of supernatural qualities to finite objects or finite events, which is the essence of all religions. Unfortunately, the history of Hinduism shows that it is compatible with religion in some of its least savoury forms. Brahma is the absolute; but, though he, or it, is venerated, he is not the centre of any important cult. Worship is reserved for Vishnu, Siva, and other minor gods and goddesses. For god-making has been carried out on a very large scale in India. But Brahma at least offers the philosophical Hindu an opportunity of "turning his back on heaven," while preserving his piety—a gesture impossible to a European.

If this be taken as a condemnation of absolute idealism, it should be noted that in Spiritualism we have the beginnings of a new religion, which can exist quite apart from any belief in a supreme deity, and often does so on the continent of Europe, though British and American Spiritualists generally preserve a more or less Christian background. Clearly Spiritualism demands scientific investigation, which would disclose remarkable facts, possibly of the type in which Spiritualists believe—more probably concerning the psychology of small groups. As things are, the Spiritualists are engaged in the same early stages of god-making as the primitive races, who are still mainly animists and ancestor worshippers. Unless the process is checked, Spiritualism will presumably evolve into a fully-developed religion, with sacred objects, intolerance, and that vast diversion of effort into fruitless channels which is in some ways the most characteristic feature of the religions.

I notice among many of my Rationalist friends a lack of interest in the history of religions, which is quite natural when one has examined their fully-developed forms and found them unsatisfactory. Nevertheless, the god-making tendency is always with us, and only by a study of its past are we likely to be able to curb its development in the present.

THE TRIUMPH OF PHYSICS

By A. GOWANS WHYTE, B.Sc.

“*THE progress of human thought is through metaphysics to physics.*” •

Whether this is a quotation, or whether it welled up from my inner consciousness in one of my brighter moments, I cannot tell. Whatever its source, it has been present in my mind for some time as an aphorism which is more accurate than most.

The Golden Age of speculation was the Stone Age of knowledge. When men cared little about the observation and classification of facts, they were eager to build up philosophical systems embracing everything under the sun. There was an intolerable deal of metaphysics to a halfpennyworth of science. When the classical era faded and Christianity spread over Europe, religion took the place of philosophy without effecting any real change, since supernatural religion is little more than metaphysics touched with emotion. We must date the true advance of the human mind from the days of Galileo, when a mere something seen through a telescope began to prove more potent than all the principles laid down by philosophers and the assumptions entertained by saints.

Since then we have seen a continuous extension of the frontiers of science and a corresponding shrinkage in the regions where the metaphysicians feel themselves free to wander without any check upon their fancies and intuitions. Formerly the seeker after knowledge was a slave of the metaphysician; to-day the metaphysician is busy trying to arrange the treasures heaped before his bewildered gaze in endless profusion by men who spend their days in weighing and measuring and calculating. The kaleidoscope of science shows so complex a pattern, and is changing so quickly, that we need not be surprised to find that the metaphysician has lost his autocratic confidence—his traditional sense of superiority over the mere grubbers after facts. He has become, indeed, less a guide claiming a higher power of divination than a humble collator.

During the latter half of last century the biologist was the chief scientific figure in the public mind. The revolution wrought by *The Origin of Species* was so startling, especially in its effects upon religious beliefs, that men's thoughts were

turned to the problems of life. Almost every branch of study was re-vitalized by the conception of continuous evolution which Darwin's work made familiar. Anthropology, psychology, and history in particular, enjoyed the benefits of a fresh inspiration. It was the drama of life, broadly considered, which men surveyed and analysed in the hope of discovering the secret of all things.

Nowadays the physicists, not the biologists, are the star turns in the scientific show. Those of us who wish to appear in the intellectual swim are not reading Darwin, Huxley, Haeckel, and Tylor; we are reading Jeans and Eddington and—with less enthusiasm, perhaps—the mysteries of Einstein. The fashion of the time is to seek the answer to our deepest questionings in the infinitely little and the infinitely great. No longer does the drama of life fill the stage. All the long history of development from amœba to man has shrunk to a mere episode in a story whose beginnings are lost in "the millioned past," and whose future instalments will occupy more time than our minds can conceive. Similarly, our thoughts are less concerned at present with the theatre of the earth than with the immensity of the space surrounding it, and with the evolutions which are proceeding in the Milky Way and among the nebulæ on a scale which puts the light-year among the small change of measurement.

The Era of Physics may be said to have begun with the discovery of X-rays and radioactivity. Man has since learned more about the constitution of matter than he found out in all the preceding centuries of study and speculation. I know nothing in the history of science more astonishing and more encouraging than the swift harvest of new knowledge reaped in the last thirty or forty years by the physicists of various countries. Using instruments of the utmost delicacy and methods of the highest skill, they have followed up their observations with mathematical analysis, which has, in turn, opened up fresh lines of laboratory investigation. Much of this activity is on a plane where the mental atmosphere is too rarefied for the ordinary mortal. Year by year it becomes more and more difficult for the public to follow the physicist in his flights of exposition and vision. On the other hand, we have been fortunate, as in the case of the biologists, in possessing interpreters who can translate into comprehensible speech the strange symbols of the physicist.

In one respect the new picture of the universe is not radically different from the old. Thanks to astronomy, we have long been accustomed to the notion of vast space and long periods of time. The main thought-revolution has been achieved in connection with the infinitely little. So long as the atom—the ultimate particle of matter—was still

regarded as an indivisible grain, it was easy for the layman to entertain the idea of "dead" matter. He could think quite comfortably of matter as something pushed about by invisible "forces" of one sort or another—chemical affinities, electrical attraction and repulsion, gravitation, and, in the case of living things, by "life" or spiritual forces residing in the "soul" or in a deity creating and controlling souls.

When, however, heavy atoms were found to break up spontaneously with the continued emission of energy, this idea of "dead" matter was killed. The atom ceased to be looked upon as an inert grain; it was revealed as a storehouse of energy, a centre of intense and orderly activity. We have gone beyond the once daring conception of a "primal matter" out of which all the ninety elements were evolved. All matter has been reduced to electricity, and the simplest known atom—that of hydrogen—is pictured as a "proton" of positive electricity, forming a nucleus, with an "electron" of negative electricity whirling round it. The heavier atoms have a complex nucleus of protons and electrons, with sufficient electrons whirling round the nucleus to balance the positive charge of the nucleus.

It is more than a mere convenience of thought to compare the atom with the solar system. In both there is a nucleus containing practically the whole mass; in both of them the "planets" follow the law of gravitation; and in both of them the spaces between the members of the system are enormously greater than the dimensions of the members themselves. After one has got used to the notion of "inert" matter containing electrons which circle the nucleus several thousand million million times per second, one has to make an even greater effort to realize the emptiness of the atom. Sir James Jeans asks us to imagine half-a-dozen wasps buzzing around inside Waterloo Station; they would represent the electrons of an atom of carbon in relation to the size of the atom itself. Professor Andrade gives us another enlargement: if the nucleus were magnified to the size of a plum, the electrons would be like gnats flying within circles of a thousand feet radius.

"The atom," in short, "is mostly empty space, and what little there is is electricity." Yet all this "emptiness" is packed within a diameter of about one hundred millionth of an inch.

While this new knowledge seems, on the one hand, to deepen the ancient mystery of matter, it does, on the other hand, throw more light upon it. The ninety elements are not ninety different things; they are ninety different arrangements of the same thing. Chemical and other properties depend upon the number of protons and

electrons. The puzzling relationships between various elements become, like many other curious phenomena, a problem in mathematics.

Thus the new view of the constitution of matter represents an enormous simplification. At the same time it emphasizes the enormous complexity of even the simplest substances. With these two aspects before us, we can more readily understand how the properties of compounds differ so radically from those of their elements. Further, we can prepare our minds to accept the hypothesis that there is no natural barrier in the way of matter evolving into the living molecule.

I have never been able to understand how people could accept as a commonplace the evolution of water from hydrogen and oxygen (neither of which resembles the compound in the least), and yet boggle at the possibility of a tremendously complex molecule displaying the properties we define as those of living matter. Their hesitation, I think, will be overcome if they review the bewildering variety of properties shown by the simple elements themselves, the still more bewildering variety of behaviour among simple compounds, and the almost endless variations displayed by compounds with three or more constituents arranged in various proportions and mutual relationships.

All these permutations and combinations reduce themselves, in the last resort, to electricity. Unity, one might say, has produced infinity. Carry the same line of thought as far as the molecule of living matter, which is the most complex molecule we know, and what need is there to call for supernatural aid in crossing the frontier?

Modern physics, therefore, seems to make the controversy over the "mechanical" and the "vitalist" conceptions of life lose most of its meaning. The vitalist has always hinted that the mechanist took a "low" view of the phenomenon of life by treating it as a mere material performance. But let the vitalist attempt to analyse, on the same lines as the physicist, the mere material performance of a grain of sand, and he will acquire a salutary respect for the marvellous intricacy and flexibility of Nature's mechanism in even the humblest fragment of matter. Let him proceed to visualize, if he can, the physical organization of the simplest living thing, with its multitudes of atoms in orderly combinations and correlations, each atom itself a universe of energy. Let him go further, and bring his imagination to play on the human organism as the physicist sees it—surely he will then realize that to bring "vital force" or any other such external factor into a system of such inconceivable complexity is, to say the least, gratuitous.

On the cosmic scale the physicist has wrought a similar

transformation. It has not been so startling, as we have had a few generations to become accustomed to the thought of a little world in the midst of infinity. Lately, however, the exploration of time and space has produced such remarkable results that we can no longer remain content to regard the outer universe as a mere framework for the earth-process.

In *The Universe Around Us* Sir James Jeans does all that imaginative ingenuity can do to bring home to us the vastness of space. He asks us to represent the orbit of the earth (only 600 million miles !) by a pin-head one-sixteenth of an inch in diameter. The sun then shrinks to a minute speck of dust. The nearest star must, on this model, be placed 225 yards away, and if we want to include the hundred nearest stars we must make our model a mile high, long, and wide.

This little solar system of ours belongs to a star-cluster inside the Milky Way—that watch-shaped collection of stars known in orthodox language as the Galactic System. By extending our model to the size of the American continent, we can make it embrace the galactic system. Having got so far, we must travel about 30,000 miles to get to the point where we may introduce the next family of stars :—

So we go on building our model—a family of thousands of millions of stars every 30,000 miles or so—until we have two million such families. The model now stretches for about four million miles in every direction. This represents as far as we can see into space with a telescope ; we can imagine the model going on, although we know not how nor where—all we know is that the part so far built represents only a fraction of the universe.

These figures are impressive, but to my mind the vastness of space is brought home more vividly by the fact of its *emptiness*. The total number of stars in the universe is, Sir James Jeans remarks, something like the total number of specks of dust in London. Yet space is no more crowded with stars than Waterloo Station would be with six specks of dust floating inside it : “The universe consists in the main not of stars but of desolate emptiness—inconceivably vast stretches of desert space in which the presence of a star is a rare and exceptional event.” Although we know of two million galactic systems or nebulae each containing thousands of millions of stars (or gaseous material of equivalent mass), calculation shows that any one star may be expected to move for something like a million million million years before colliding with another star.

The physicist makes equally generous drafts on the Bank of Time. By various routes he arrives at the conclusion that the stars as a whole are anything from five to ten millions of millions of years old. The sun was probably born within

the last eight million million years. Our earth is about 2,000 million years old ; life appeared on it about 300 million years ago ; and man 300,000 years ago. Thus, as Sir James Jeans observes, "the astronomical time-scale is incomparably longer than the human time-scale—the generations of man, and even the whole of human existence, are only ticks of the astronomer's clock."

One consequence of the emptiness of space is that the odds against the existence of another solar system with a life-bearing planet are staggeringly high. From our study of the nebulae in various stages of evolution, and from our knowledge of physical laws, we are fairly certain that the approach of a star, when our sun was still in the gaseous condition, was essential to the foundation of the planetary system. Exceptional factors were also necessary to result in a planet with the precise conditions of atmosphere and temperature for sustaining life. To quote Sir James Jeans again : "All this suggests that only an infinitesimally small corner of the universe can be in the least suited to form an abode of life. Primaeval matter must go on transforming itself into radiation for millions of millions of years to produce a minute quantity of the inert ash on which life can exist."

It is, of course, open to anybody to assert that this conception does not disturb the theory that the universe was constructed in order that man might be created. The Bishops at the recent Lambeth Conference, for example, courageously faced the daunting implications of Space and Time. They declared that we must not confuse moral and physical insignificance. "Man's value in God's sight depends upon his spiritual qualities, and in particular upon the extent to which he can enter into communion with God." I admire them for their heroic assertion that the supreme purpose of the cosmos is expressed in space by a point, and in time by a tick of the astronomical clock. I admire them also for what I may describe as the poetry of their belief that we creatures of a moment can enter into communion with the entity to whom the entire universe from beginning to end of its history is a mere picture. But I confess that the Bishops rather detract from the effect of their defiance of physics on behalf of their ancient faith by adding that "apart from spiritual apprehension there is for man in the universe neither order nor beauty nor vastness nor sublimity." If by "spiritual apprehension" the Bishops mean the peculiar form of insight for which they professionally stand, their assertion is nonsense. If they mean nothing with a supernatural tinge, then they mean nothing of any professional value to them.

The blunt fact is that the Bishops to-day are struggling against an even more serious catastrophe than that caused by

the publication of *The Origin of Species*. In their hearts they are well aware that, if present-day knowledge of the universe had been available two or three thousand years ago, Christianity would never have taken root. Not only would the entire apparatus of the Fall, the Incarnation, the Transfiguration, the Crucifixion, and the Ascension have appeared invalid, but the basic conceptions of the relation of man to his environment would have been utterly different. In the light of what we now know, the whole system of supernatural philosophy becomes simply irrelevant. The new knowledge does not so much contradict the old as deprive it of all significance, except as marking a stage in human progress. It gives us a new framework, a new pattern, which extinguishes the confident tracteries of ancient dogmatism.

The full value of the revolution wrought by physics is not yet apparent, because the advance has been too rapid to allow of its entire meaning being grasped, and because fresh discoveries are being made so swiftly. Sir James Jeans reminds us that astronomical science began about 3,000 years ago. Its progress was very slow until the discovery of the telescope 300 years ago; even after that event the harvest of facts was leisurely enough for everybody to cope with it. But within the last generation the pace has been quickened. New observations, new theories, new speculations, press upon us in a most bewildering fashion; and there is every indication, with the invention of fresh instruments of precision and with the cumulative effect of scientific knowledge, that the acceleration of learning will be maintained. Our children will become familiar with an order of thought—probably highly mathematical—which is incomprehensible to us. Thirty years may well see more change in our mental content than the three thousand years since astronomy was born.

In this prospect there is, I think, immense encouragement. Knowledge is advancing in geometrical progression, and with each new conquest we gain more mastery over the problems that confront us. More assuredly than ever before, the future rests with science. Whether the Churches will play a better part in the next stages of human progress than they have in the past remains to be seen. Their traditions, and their whole mental outlook, make any change doubtful. When Lord Dawson of Penn recently lamented the tendency of the Churches "to be dragged at the tail of progressive movements.....rather than to lead," he framed an indictment on which the Grand Jury of Public Opinion must find a true bill.

TOLERATION AND INTOLERANCE : PAST AND PRESENT

By SIR ALEXANDER G. CARDEW

THE principle of toleration—the allowance of freedom of action and judgment to other people—has not generally been an early characteristic of human society. Maine has spoken of “the almost physical loathing which a primitive community feels for men of widely differing manners from its own.” This dislike of alien ways was accentuated when it was manifested in connection with matters held to be sacred, such as religious rites and sacrifices. Community in religion was as important as community in language, and more important than community of race.

It was, therefore, a notable achievement when Buddha, many centuries before Christ, laid down the principle of toleration, and still more when this principle was accepted, and to some extent at least practised, in India. Asoka, the famous Mauryan Emperor, whose edicts, carved on stone, may still be seen *in situ* at various points in India, avowed his readiness to recognize, and even to endow, all religious sects. It is true that his toleration was subject to certain limitations. Animal life being sacred, religion could not be made an excuse for killing animals, and men were executed for disobeying this edict of mercy. But within its limits the toleration of Asoka was genuine.

Unfortunately, he was in advance of the age. Many bitter religious persecutions broke out later in India. In the sixth century of our era Sasanka, the King of Bengal, carried out a violent persecution of the Buddhist religion, and destroyed many monasteries and holy places. The allied sect of Jains suffered even worse persecutions. When in the seventh century the Pandyan king was converted from Jainism to Hinduism he put to death, it is said, 8,000 Jains who had the bad taste to refuse to follow his example. To this day tradition in Southern India points to “the Jain line,” stretching far across country, which is said to have been marked out by impaled or crucified Jains.

Brahmanism, indeed, has an inner incompatibility with toleration. It starts from assumptions, which, if they leave

thought free, impose the most degrading slavery on the person. The Pariah is from his birth untouchable. His very presence is a pollution. He may never enter a Hindu temple. Outside the great Hindu temples may be read notices: "No Pariah admitted." The Brahman, on the other hand, is a god. He who strikes a Brahman, even with a blade of grass, will become an inferior quadruped during twenty-one transmigrations. One can hardly translate such a system into terms of toleration.

Buddhism, destroyed in India, found a home in China, a land free from caste, and probably also inclined towards toleration. Before Buddhism arrived the rival philosophies or faiths associated with the names of Lao Tze, Confucius, and Mencius seem to have existed there side by side, and in later times were actually given imperial recognition, together with Buddhism. Even Christianity was granted a large measure of toleration.

In Western Asia it is probable that before echoes of Buddhism arrived the very conception of toleration was unknown. At any rate, it had no place in the religious outlook of the race with whose history we are most familiar. The Jews had always regarded themselves as separated by religion from other races. From the time when Moses established Yahveh as the special deity of the Hebrews this feeling became intensified. Yahveh was originally a tribal god. The worship of Yahveh was the cement which held together the loosely associated Hebrew tribes. It was the spear-head—to change the metaphor—which enabled them to conquer Palestine. From that time onward it remained the great unifying influence which sustained the Jews under defeat and captivity without losing their national consciousness. It kept up the spirit of separatism which has marked the Jews ever since. To such a people with such a faith toleration was an alien idea. Yahveh was a jealous god, and brooked no rivals.

A not dissimilar attitude marked the other great Semitic religion, Muhammadanism. Allah, like Yahveh, was at first a tribal god. When Muhammad gave his worship a wider interpretation it still remained fiercely monotheistic. *La ilaha illa-llaha*—there is no god but Allah. There was to be no truce with the heathen, though certain non-Moslem faiths, known as *dhimmis*, were entitled to protection. These dissident creeds were much better treated than they would have been under Christian rulers, but persecution broke out fiercely at times, and it cannot be said that freedom of faith was ever a principle of Muhammadanism.

The ancient Greeks were polytheists, and their gods were generally mild and tolerant compared with these fierce Semitic

deities. It is true that, when the Persians sent an embassy to try and detach Athens from the other Greek States, one of the reasons given for refusal was that all the Greeks "had sanctuaries of gods and sacrifices in common." But to the Greeks religion was rather a servant than a master. The principle of freedom of conscience and the value of free discussion were laid down by Socrates; and, though in his later years Plato unhappily committed himself to the advocacy of intolerance and even of persecution, his teaching on this point does not seem to have infected the Greek people. The Greek attitude continued to be one of sceptical interest in abstract questions and enlightened discussion of the various problems of philosophy.

The attitude of the Romans was different. They certainly had no firmly fixed objection to the admission of a new deity into their pantheon. Annona, the goddess of the corn market, was so admitted, and many Oriental cults were recognized. "We have received Isis into the Roman temples," wrote a poet of the time of Nero. But neither under the Republic nor under the Empire was the political importance of maintaining the national worship lost sight of. Rome was tolerant, but she expected outward conformity. It was on this ground that the Christians came under imperial disapproval. They refused to make the prescribed "supplication" to the image of the Emperor. They thus became guilty of sacrilege, and were liable to be punished accordingly. Christianity was seen to be a disruptive force, and was therefore subjected to persecution. But these persecutions, fitful and ineffectual as they were, were not like the persecution of Buddhists by Brahmans or Arians by Orthodox, based on grounds of religious doctrine. They were rather a matter of imperial policy, and form hardly an exception to the generally tolerant character of Roman rule.

By the fourth century Christianity had made such headway that Constantine first granted it toleration, and then made it the official religion of the Empire. A marked change at once occurred in the religious atmosphere. While the old tolerant Paganism had merely required men to conform, the new religion insisted on their also believing the approved doctrine. Augustine declared that men might be brought to recognize the truth by force. The bitter strife of sect with sect exacerbated religious intolerance. As early as 385 Priscillian was executed for heresy. During the darker ages which followed the fall of Rome persecution was less active because men's minds were otherwise engaged; but with the recovery of Europe in the twelfth and thirteenth centuries, and the development of the power of the Church, the pursuit of heresy became more systematic. In 1230, Pope

Gregory IX established the Papal Inquisition, and it was decided that heretics were to be burnt. Even before this date the stake had been resorted to freely for the repression of heretical opinion. An instance from the Eastern Empire is the savage persecution of the Bogomils, who were Manichæans. In the ninth century the Empress Theodora killed, hanged, or drowned 100,000 of them. She was afterwards declared a saint on account of her zeal. In the eleventh century the Emperor Alexius was prominent in the same good cause. His daughter, the Princess Anna Comnena, in her history relates how the Emperor set a trap for the Bogomil leader, Basil. He invited him to his table, and held out hopes of conversion. Then, when the Bogomil had been induced fully to reveal his opinions, the arras on the wall was thrown back, disclosing the scribe who had taken down what he had said. The princess gloats over the poor wretch's sufferings, the fire in the hippodrome, the agony of the victim.

The persecution of the Bogomils had its parallel in the Western Church's ruthless pursuit of the Albigenses. Pope Innocent III, on ascending the papal throne, resolved to root out this heresy. Efforts at conversion having failed, he proclaimed a crusade against the Albigenses. This had to contend not only with the heretics themselves, but with the nobles who protected them, the people who venerated them, and even with the local clergy. The Inquisition, however, worked remorselessly; when the heretical citadel of Montségur was captured two hundred of the sect were burnt in one day. At last its adherents, driven to take refuge in the forests and mountains, were practically exterminated.

Roman Catholics have attempted to defend these actions. Lord Acton, for instance, in his *History of Freedom*, contends that persecution is wrong only if founded entirely upon religious motives, "and even then is not necessarily censurable." When it is resorted to as a political expedient he regards it as entirely justifiable. The civil power, he argues, required all the help the Church could give it to maintain itself against the lawlessness of barbarism. Every heresy that arose in the Middle Ages involved, he declares, revolutionary consequences. The Albigenses, the Waldenses, and the Lollards were all alike incompatible with European civilization. Thus intolerance, in itself a defect, became a merit!

A similar plea would no doubt have been urged in the case of Protestantism if the Church had succeeded in crushing it. As Protestantism survived in spite of the Church, this argument cannot be used by the Papists. But even in the case of the Albigenses, as Dr. Coulton has shown, it is false.

The Count of Toulouse had no rooted objection to the Albigenses as subjects, and Philip Augustus of France showed the same attitude. The heretics were, indeed, often morally superior to the Church. Nor is it true that Catholic persecution was based only on reasons of State. Rome burnt isolated reformers like Savonarola as readily as Albigenian leaders. Acton himself wrote that "the principle of the Inquisition is murderous," and again, that "he who accepts the Primacy with confidence, admiration, unconditional obedience, must have made terms with murder."

• The Reformation produced no reduction in the spirit of intolerance. Luther declared that it was the duty of the State to impose true doctrine and to exterminate heresy. Calvin advocated the control of the State by the Church and the establishment of a theocracy where false doctrine would be punished as crime. He was a party to the burning of Servetus for heresy, though the Spaniard was merely a visitor passing through Geneva. His action was approved by Melanchthon, who formulated principles of persecution.

But, though the leaders of the Reformation were as intolerant as the worst of the Romanists, the new movement inevitably promoted the cause of toleration. The destruction of the Roman Church's claim to universal domination, the appeal to private judgment in the interpretation of the Bible, the very multiplication of sects—all tended to produce a more tolerant atmosphere in countries where the Reformation had triumphed. Milton, in the *Areopagitica*, proclaimed the right to free speech and discussion according to conscience. Locke, in his famous *Letters on Toleration*, based the principle of toleration on the ground that religion was outside the business of the civil government. Slowly the principle gained ground in Protestant countries.

With the English Revolution of 1688–89 and the accession of William of Orange the cause progressed further, though more than a century was to elapse before it triumphed. At the present day, except for minor extravagances such as those of the Fundamentalists in backward parts of the United States, it might be thought that the principle of toleration was generally accepted. "There is one issue," writes Professor John Baillie, of New York, "which we may take as definitely settled. If there is any clear lesson which emerges from the nineteen centuries of Christian history, it is the lesson of religious toleration. We are all agreed that Plato and Augustine were wrong in making unbelief a legally punishable crime."

Unfortunately, the worthy Professor overlooked the

Roman Catholic Church. That body, "immortal and unchanged" as Dryden assures us, is the true Die-hard of history. Resolved to defend to the last its medieval citadel, it steadily refuses to abate one iota of its claims to control both thought and utterance. It has never accepted for a moment the modern demand for freedom. Only the other day it brought out a fresh edition of the *Index Librorum Prohibitorum*, an immense list of some five thousand books which the faithful may not read. The principle of the censorship was re-asserted in 1907 in the papal encyclical *Pascendi*, and has never been concealed.

But the Roman Church does not stop short at merely controlling what its adherents may read. It goes much further, and would, if it could, determine what they may say and what everyone within its control may think. Naturally, in a country where the Roman Catholics are in a minority, some judicious reticence is used as to the Church's real pretensions; but even here some indiscreet adherent, generally some one trained outside the Church and so not bred up to its stealthy methods, lets the cat out of the bag. Father Ronald Knox, in his recent book, *The Belief of Catholics*, distinctly warns us that when Roman Catholics are in a sufficient majority they "will not shrink even from repressive measures in order to perpetuate the secure dominion of Catholic principles among their fellow countrymen." He goes on to say that "when we [i.e., the Catholics] demand liberty in the modern State we are appealing to its own principles, not to ours." It is just as well to have this frank declaration from a member of a Church famous for its casuistry. The Pope Leo XIII was more guarded in his encyclical of June 20, 1888, when he declared: "In the Catholic State liberty of conscience and of discussion must be understood and practised according to Catholic doctrine and Catholic law."

Nevertheless, it comes rather as a shock to know that to-day, in this twentieth century, the Roman Church still definitely declares its intention of imposing any penalty, even death itself, on those who venture to differ from its doctrines; yet such is actually the fact. In 1910 there was published at Rome, printed by the publishers to the Pope, and written by Father A. Lépiciér, a Jesuit Professor in the College of the Propaganda, a book entitled *De Stabilitate et Progressu Dogmatis*. This work is written in Latin. Prefixed to it is a letter addressed to the author by and on behalf of the Pope Pius X, in which the book is declared to be immensely pleasing to the Holy See. Since then the author, who has produced many other works, has been created a Cardinal, and was selected this year to be papal legate at the Eucharistic Congress. There can be no doubt, therefore, as to the

fully accredited character of Cardinal Lépiciér's exposition of Roman doctrine.

In his work, *De Stabilitate et Progressu Dogmatis*, Cardinal Lépiciér devotes a long section (pp. 193–217) and an appendix to the subject of heresy and its treatment. Here, under the very slight veil of a dead language, this leader of the Church adopts and sets out anew the arguments by which St. Thomas Aquinas in the thirteenth century justified persecution. It would take too long to quote the whole of his argument, but some of his remarks may be noticed. He tells us that, if heretics publicly profess their heresy and induce others by their example and evil counsels to adopt their errors, no one can doubt that they deserve not only to be excommunicated, *but to be put to death*. For, he goes on, as St. Thomas Aquinas remarks, if coiners of false coin and other criminals are justly put to death by the civil authorities, much less should mercy be shown to heretics who insidiously attack the true faith, without which there is no salvation. Indeed, it is much worse to corrupt faith than to coin false money or otherwise injure the worldly life of the public. Therefore, as soon as anyone publicly professes his heresy and by words or example tries to seduce others, not only should he be absolutely excommunicated, *but he may also rightly be put to death*. For, as Aristotle has said, a bad man is worse than a wild beast, and does more harm. Therefore, urges the Cardinal, as it is not wrong to slay a wild beast, especially a dangerous one, *so it is a good thing to deprive of his life a heretic* who detracts from divine truth and so insidiously assails the salvation of others. He then cites the Bible and Pope Pius IX in support of his views. Other sections of the book deal with connected topics, such as the right of the Church to force heretics and apostates to return to the faith.

It is evident from the above quotations that, so far from the principle of toleration, not to say freedom of thought, being accepted by the Roman Church, it is still in the frame of mind which inspired the horrors of the Spanish Inquisition. It has forgotten nothing and learnt nothing, and among all the Churches of Christendom it most deserves to be labelled "dangerous." After reading Cardinal Lépiciér's utterances, one ceases to wonder at Voltaire's exclamation "Écrasez l'Infâme."

Unhappily, during the last decade a new supporter of the principles of intolerance and a new exemplar of the suppression of free thought has appeared in an unexpected quarter. The new-born Republics of Russia have taken up the torch from the aged hands of the Roman Church, and have inaugurated a truly theological campaign against theology and against other forms of thought supposed to be anti-revolu-

tionary. Imitating with considerable exactness the methods of the old enemy of freedom, the Bolshevik Government has drawn up an Index of Prohibited Books in which, according to Fülöp-Miller (*The Mind and Face of Bolshevism*), are included the works of Plato, Kant, Schopenhauer, Herbert Spencer, Nietzsche, and other Western philosophers. It is stated that the Russian "Main Committee for National Education," of which Lenin's widow was president, issued a circular declaring 134 books to be prohibited, and ordering that all the works of ninety-four authors were to be entirely removed from public libraries. Power was also given to provincial officers to ban other books at their discretion. The censorship, too, is in active operation. Every book has to be submitted to the censor before publication, and any work which seems to support the bourgeois point of view is disallowed.

While the Bolshevik Government thus actively interferes with freedom of thought and discussion, it has in addition turned the tables on the old masters of intolerance, and has deprived everyone connected with any religious organization of all electoral rights. Under the Russian constitution no monk, priest, deacon, Roman Catholic clergyman, pastor, mullah, kazi, rabbi, etc., is eligible either to be elected to a soviet or to vote in an election. Nor is this all. By art. 122 of the Criminal Code of the R.S.F.S.R. it is a criminal offence to teach any religious belief to any person under age in any public or private educational institution. Breach of this law is punishable with compulsory labour for a period up to one year.

It certainly seems to be beyond reasonable doubt that, by these and other provisions in their official Codes and Circulars, freedom of thought and speech have been formally negated within Russian territories. How far actual persecution has been carried seems difficult to determine. Large numbers of priests have been executed; but these executions have usually been ostensibly based on political grounds. The legislative provisions above quoted are, however, sufficient to prove the perversion of liberty, and it must be a matter of sincere regret to all Rationalists that in this new social experiment the methods of the worst exponents of human tyranny have been selected for imitation.

THE EPICUREAN VISION

By LLEWELYN POWYS

(Author of *"The Pathetic Fallacy: A Study of Christianity," etc.*)

YESTERDAY, as I walked down to a neighbouring farm to buy butter and bread and milk, the July sunshine lay bright upon the gravel of the lane. Broad shadows of elm trees cut clean across the track which shone emphatic and actual. In that afternoon hour it was impossible to deny the happiness of existence. It was impossible to be recreant to the mystic now, and to the message of the senses as to what is.

In the parlour of the farmhouse a "loud speaker" was making its noise, and as I waited for the doors to open I recognized the nature of the sounds that the instrument was recording. They floated out through the window into the sultry garden. They disturbed the peace of the place, the peace of the small garden of roses and peonies and chicken-trodden grass. Their irrelevant discord teased the stillness of the sheltered enclosure and tormented the natural contentment of the cornlands on the other side of the hedge. It was the tiresome humming of gnats, the whining of whipped dogs, the outcry of prisoners, the voices of Christians at prayer! I knew I could not be mistaken; it was unmistakable. For two thousand years the hearing of honest men has been tormented by just such obsequious undertones rising and falling. A service in Westminster Abbey was in progress, and the voices of these prayerful idolaters were being made audible far and wide over the broad sunshine pastures of England. The sycophantic volume of sound, like the murmured supplications of absconding slaves, offered an affront to the blessed confidence of nature. There was something craven, unhealthy, neurotic about it. It ill accorded with the sober stability of matter.

For two thousand years this excitable superstition has held in its power the populations of Europe. In a hundred subtle ways the minds of philosophers and fools have been dominated by this frenzy. It has been all-powerful and ubiquitous. Only one single tradition of thought has been able to stand against it. For centuries this great tradition of thought has been ignored, overlooked, and yet never altogether forgotten. The philosophy of Epicurus, firm and simple and easy to be understood, has been, and remains to-day,

the one disposition or habit of mind that has offered stout resistance to churchly teaching. In its manifold disguises it has stood unswayed and unimpressed. Innocent though they may have been of the definite teachings of the unabashed philosopher, this natural wisdom has directed the lives of men in hovel and in palace alike. Though their arms may be crossed, the churchyards of Europe are full of dead men whose allegiance through life was to the doctrines of this Greek sage.

It is interesting to notice the similarity and difference between Jesus and Epicurus, to set the cool reason and consideration of the one against the sentiment and impassioned egoism of the other. I know very well that the doctrines of Jesus have been sadly garbled by his followers. I know very well that the words actually spoken by this sensitive enemy of the sun brought into the world a certain tenderness as full of grace and mystery as human tears ; and yet, even remembering this, there is a refreshing calm about the sayings of Epicurus, so reasonable and so courageous, that has been, I believe, of more value to the human race.

As expressed by the Apostle Paul and the church militant, Christianity's purpose has ever been to discredit life upon earth. There is something mean and perfidious about such a discipline. Christianity has the eye of a sick cat, anxious, unreconciled, and full of discontent with the lawns and sun-warmed garden spaces. The more one meditates upon the sayings of Epicurus the more one appreciates the fact that the concern of his instruction is always directed upon the actual human situation here on earth. These scraps of the Greek language have reference to no other world. They are sign-posts for our present wayfaring, and are placed along the turnpike of our present life—not between this naughty world and the fabulous celestial city of John Bunyan's conception, but along the everyday roads we must travel from wicker cradle to boarded coffin. We have here no theological jargon, no chat about original sin or atonement, no speculations about absurd Trinities that are no Trinities, no fables about ascensions and dead men rising from the grave, no mutterings about heaven and hell ; but, instead, straightforward talk that would sound like sense in market square, in temple, or in tavern. This is the kind of talk we are all in need of as, uncertain and faltering, we go forward through life athirst for wisdom.

Unfortunately, most of what Epicurus wrote has been lost ; yet even out of the thrice precious fragments that have been preserved we can gather enough wisdom for the direction of our lives. His cosmology is extraordinarily modern. "The forms come and go, spring into being and pass away.....but meanwhile matter itself remains uncorrupted, and older than

all things which are made, no less in bulk than it was in the beginning, and, as it existed before all the forms, so is it joined to them and survives them." Elaborating the atomic conjectures of Democritus, his conception of the ultimate constitution of the physical universe closely approximates to the beliefs of present-day men of science. He saw the universe as made up of atoms that are for ever taking new forms. The movements of these atoms are subject to unaccountable "swerves," which would suggest the same unpredictability of the electrons and protons that Eddington tells us about at the present day. Upon this swerve of the ultimate atoms Epicurus based his fundamental conviction of man's free will. He believed that matter was infinite, and was immune from annihilation. Spontaneous generation he held to be a mere fancy, and was convinced that careful inquiry would invariably show that there was a natural cause for all phenomena. For him the greatest value of scientific investigation lay in the fact that it relieved the human mind from fear. It was indeed Epicurus who first dared to face the universe with unaffrighted eyes. He looked up at the stars, and realized that these majestic midnight gatherings were sufficient in themselves without the help of the gods, and were in some manner reduced by the human notion of a divine creation. The heart of the matter was a rational movement of nature. Against this background the purpose of life was to be happy. This is the aim and end of life, and it is possible to be attained by freeing the mind from fear and the body from pain. Just as fear causes all the misery of social injustice and the horrors of war, so in the heart of the individual it poisons life. Epicurus follows it down to its dark lairs. He shows us the folly of all supernatural apprehensions, and with simple words does away with the oldest of all terrors—the terror of death. He taught that the soul is like a wind or breath in the body: "Death, which is said to be an evil, hath this belonging to it, that when it hath been present it hath never troubled anybody.....Death is nothing to us; for that which is dissolved is without sensation; and that which lacks sensation is nothing to us." The senses, unfaltering loyalty to the senses—Epicurus is never weary of insisting upon that! He is intolerant of the ideal speculations of Plato, "that golden man." The metaphysics of Aristotle are nothing to him—he called him "debauchee" and the rascal who sold drugs. To take the world at its face value as it appears to simple men—that is his teaching, and with a mind free from care and a body free from pain to live like a god among men. He had the utmost confidence that this could be done. It is the mere gift of consciousness that he values—the boon of possessing a tranquil contemplative

mind in a healthy body. He suspects all carnal pleasures of being disruptive of this peace. Of sexual delights he says : "This intercourse has never done a man good, and he is lucky if it has not harmed him." These "ticklings and prickings" and the "fine and smooth and enticing motions of the flesh" he made bold to disparage. Yet it was no moralic acid that so perverted his judgment, for he writes : "You tell me that the stimulus of the flesh makes you too prone to the pleasures of love. Provided you do not break the laws or good customs and do not distress any of your neighbours or do harm to your body or squander your pittance, you may indulge your inclinations as you please." It is prudence that must be the directing rudder of life. Without moral misgivings every proposal must be considered solely in reference to the possibility of personal happiness to be derived from it. "I spit upon virtue that gives no happiness," he says somewhere. Yet from the security of his garden his sharp subtle eye is able to detect the dangers that beset most men's lives. Love of money, ambition—he is never tired of inveighing against their insidious power. How refreshing, in truth, are his sly, subversive, fortifying observations :—

The wise man will not believe that love is sent from heaven.

The pleasure of the belly is the root and source of all good.

Courage is a quality which does not exist by nature, but springs from a consideration of what is in our own interest.

Moderate physical pain is a greater evil than the utmost disgrace.

If you wish to make Pythocles happy, add not to his riches, but take away from his desires.

Nothing which suggests doubt or alarm can be included at all in that which is naturally immortal and blessed.

There is nothing terrible in life for the man who has truly comprehended that there is nothing terrible in not being.

Epicurus was born seven years after the death of Plato. As a child he must have heard of Alexander the Great's triumph and death. He knew Athens stripped of her glory. "Hide your life" was one of his commands, and in his famous garden he and his favoured disciples put this into practice.

It is a significant fact that any philosophy that proposes personal happiness for its aim is regarded with disapproval by the many. Reliance on the senses is under suspicion. Even before the appearance of Christianity this was so. It would seem that the racial instinct of man inclines towards idealism. By such whim-whams alone can he be separated still further from the other animals. From the first the

doctrines of Aristippus caused pious men to raise their hands in protest. Yet it may very well be that all theologies and all metaphysics tempered with categorical imperatives are mere methods of intellectual evasion. Possibly our race egoism persuades us to indulge in such high-flown fancies when in actual fact the solution to our problems is to be sought *very near to the ground*. Throughout the ages this may have been an open secret, which the temerity of society has never dared to acknowledge. It is likely enough that human life has no moral significance—that *nothing really matters*. The long travail of evolution, the procreant urge, may have no purpose in view that concerns us. Born at all adventure, we and all that is animate on the face of the earth may be predestined for a meaningless annihilation. Our wisest course may well be to enjoy our hour of sunshine without thought or plan. All life is carried along in this perpetual flux. The poppy lifts its head to the sun, and its petals fall. Flies he never so high, the eagle comes to the earth at the last a sorry bundle of unbuoyant feathers. Ox and ass, mouse and man, none escape. The very planet itself, for all its encircling tumbler-pigeon flights, is doomed.

"Our modes of being affected alone are knowable," declared Aristippus. These very feelings are momentary. They are with us now, very now, and yet even as we see and hear and smell they have slid back into the shadowy storehouse of memory. This ephemeral consciousness that is flashed in upon us by our senses may very well be *our only moment of reality*. Epicurus asserted that the pleasures of the mind were superior to those of the body. Aristippus disputed this. These Cyrenaics, not without some show of reason, were convinced that carnal pleasures, being more simple and more intense, were to be preferred. It is possibly true that the apex of many people's realization and existence is reached at the moment of ecstasy in carnal embraces. Yet the mere suggestion of this immediately brought the Cyrenaic philosophy into disrepute. We all may know this to be true, but no one must make open declaration of it. The real importance of Epicurus rests upon the fact that his name has been a rallying-ground for all who favour hedonism. His more sophisticated and cultured ideas as to the means by which true happiness is to be arrived at have afforded a moral shelter for pleasure lovers of every kidney. His figure, so beloved, so reasonable, so loyal, and so generous, has been strong enough to withstand the subtle influences of those whose will it is to do outrage to life. Christianity has never prevailed against him and his philosophy. He is the great master of all lovers of the sun.

Thou, who out of deep darkness didst avail to raise a torch

so clear, shedding light upon the true joys of life, 'tis thee I follow, bright star of the Greek race, and in thy deep-set prints firmly now I plant my footsteps, not in eager emulation, but rather because for love I long to copy thee.

In our own time his followers have amplified his views. We still recognize his testament as our testament, yet we claim a larger fulfilment of it. Our creed is his :—

I believe in no God.

I believe in no immortality.

I believe that the secret of life is happiness.

I believe that virtue is heathen goodness.

We hold, with him, that self-control is essential to a happy life ; that the noble soul occupies itself "with wisdom and friendship"; that "necessity is an evil, but there is no necessity to live under the control of necessity"; that "we must release ourselves from the prison of affairs and politics"; that "the mean soul is puffed up by prosperity and cast down by misfortune"; and that "we are born once and cannot be born twice, but for all time must be no more." We believe this, but, overbold perhaps, we also believe that life holds transports and exultations. Mental tranquillity and philosophic calm are good, but the heightened moments of sensation which life has to offer are better.

In an old Roman graveyard these words were read : "I was nothing ; I am nothing ; and thou who art alive Eat, Drink, Make Love. *Come.*" All the wisdom of life is contained in that dead man's message. Yet to be a glutton, a drunkard, a sexual maniac, would bring small profit. We must remember the exhortations of Epicurus. We must learn prudence. We must not satisfy all our momentary desires so that our spirits are in danger of being stretched upon the rack of self-criticism which we call remorse. The seas of life are pestered with treacherous winds : "Leave all free, as I have left all free." With minds clear of religious falsifications, with imaginations quickly alive to the poetry of existence, let us ask no more of life than what has been so generously offered. The true blessings of life are to be had of all wise men. To regard it as a pageant, as a spectacle—to be ourselves players in this play, is reward enough. To experience human sorrow, to experience human happiness, to love, to laugh, to cultivate damaging thought ; to analyse, to understand, to increase one's awareness by insight and discrimination, is to follow the tradition of the profoundest mood of the human race—a mood that was already old when Christianity was invented, and which will be acceptable to certain select spirits long after this fantasy has become but the memory of a vanished superstition.

THE OLD RATIONALISM AND THE NEW

By ROBERT ARCH

NO student of modern controversies can fail to be struck by the change which has taken place in the main topics of discussion during the last fifty years. Half a century ago such works as *The Origin of Species*, *The Descent of Man*, and *Essays and Reviews*—products of the preceding twenty years or so—held the attention. The truth or falsehood of the dogmas of historic Christianity—the Creation, the Fall, the Atonement, and so forth—was eagerly debated in organs of educated opinion. Readers of the *Nineteenth Century* could be thrilled by the sparring of Huxley and Gladstone over incidents of Biblical narrative; and it was actually possible to be worked up to violence over the question whether a professed Atheist should be allowed to take his seat in the House of Commons or not.

All this has changed. Newspapers, indeed, still fill columns with religious controversy; but the organs which “feature” it are those read by the masses, not by the cultured minority. In periodicals with a select circulation the issue of reason *versus* dogma is no longer debated; it is ignored. The explanation is that in educated circles this issue is no longer alive. No person of culture, outside the ageing and dwindling body of Anglican clergy and what Dr. G. G. Coulton aptly calls the “ghetto” of Roman Catholicism, believes in the historic creeds. There is a tacit convention that the feelings of the clergy must be spared; we therefore take care to disguise our real beliefs when a member of the profession is present, and a newspaper like the *Times*, which enjoys a large clerical circulation, studiously pretends that everyone nowadays is more or less a Christian. But these are polite fictions which deceive only those for whose consumption they are intended. The educated laity, as a whole, are indifferent to religious controversy simply because for them the issue is dead.

It follows that the work before the Rationalist Movement to-day is very different from that which faced it fifty years ago. Erudite criticism of the Bible has, broadly speaking, served its purpose. Controversy continues to play round

questions like that of the historicity of Jesus, or the date and authorship of the various books of the Old and New Testaments ; but this is largely a controversy among Rationalists themselves. Once the belief in "the only-begotten Son of God.....who for us men and for our salvation came down from heaven, and was incarnate by the Holy Ghost of the Virgin Mary, and was made man," is given up, no one can pretend that anything very vital turns on the dispute whether the shadowy figure of a Galilean "Messiah" counts for anything or nothing in the tangled maze of Christian origins. •

The agnosticism of the educated takes time, of course, to permeate the masses ; and for some time to come there will doubtless be room for "Bible-smashing" of the old style in the field of popular propaganda. But there are grounds for thinking that even such work will soon reach the limit of usefulness. In mining operations the easiest seams are worked first ; those next opened up are more difficult, and so less profitable ; finally, when the workings are too far from the surface they cease to pay at all and the mine is closed. So it is with advanced propaganda. A movement makes converts at first among the most interested and intelligent sections of the public ; at this stage controversy is lively and at a high level. When this stratum has been tapped the public still to be won over consists of less interested or less intelligent elements ; the task of the propagandist is harder, and the response slower. Finally a stage is reached when everyone capable of conversion by such propaganda has been converted, and only the incurably indifferent or hostile remain outside. Further progress is then impossible along that particular line. Rationalist propaganda, so far as it is merely critical of religious dogma, already shows signs of approaching this limit.

The shifting of public interest, however, during the last half-century has a positive as well as a negative aspect. Attention has drifted away from religious issues not only because those issues are less alive, but because others have taken their place—in particular, issues of economics, sex ethics, war and peace. Many causes have contributed to this development—for instance, the European artistic and literary movements represented by Wagner in music, Ibsen in drama, and Zola and Anatole France in fiction ; the influence of such writers as Messrs. Shaw, Wells, and Galsworthy in twentieth-century England ; the Socialist movement ; and the Great War. The effect can be observed by noting the kind of book which to-day sets the critics and the public by the ears, as contrasted with those which did so in the Victorian period. Then the fray raged round the works

of Darwin, Huxley, and Matthew Arnold ; lately it has raged round Mr. Shaw's *Intelligent Woman's Guide to Socialism and Capitalism*, Mr. Russell's *Marriage and Morals*, and Herr Remarque's *All Quiet on the Western Front*.

The Rationalist Movement, if it is to appeal to the modern public, must take some account of these developments—the more so since the work done by the older Rationalism is in a very direct way responsible for them. The great philosophers, scientists, and Biblical critics of the last century had for the most part no wish to attack Christian morals ; but it is now obvious to every logical mind that the crumbling of Christian dogma has definite ethical reactions. It makes all the difference in the world whether we regard ourselves as placed on this planet by the fiat of a personal Creator who reveals his will to us either by an infallible Church or by an infallible book, and who will reward or punish us after death according as we obey or disobey him ; or whether we consider ourselves as the products of a blind process, surrounded by an indifferent universe, our life purposeless except for the purposes we ourselves put into it, and “rounded with the sleep” of annihilation. On the first hypothesis mundane happiness and unhappiness are indifferent considerations ; we have to “work out our salvation with fear and trembling,” and the greatest misery on earth is a light affliction compared with the peril of eternal torment. On the second supposition happiness on earth is the only good, misery on earth the only evil ; and the preachment of future weal and woe is not only a falsehood, but a cruel and baleful falsehood, bemusing with insubstantial hopes and fears the intelligence which should be devoted to promoting earthly happiness and diminishing earthly suffering.

In proportion as Christian belief weakens, the acid test of utilitarian standards is applied with increasing effect to the taboos and injunctions of Christian ethics. This first becomes obvious in the sphere of economics and politics. It is not my purpose here to hold a brief for a particular political or economic creed, but to draw attention to the difference between the temper in which such questions are discussed to-day and that in which they were discussed before the older Rationalism had done its work. The Christian conception of civic duty is summed up in the words of the Church Catechism : “To learn and labour truly to get mine own living, and to do my duty in that state of life into which it shall please God to call me.” Much idle casuistry has been spent in expounding the alleged significance of the use of the words “shall please” in preference to “has pleased.” Such apologetics miss the point. The essential implication is that the individual's status in society, gentle or simple, respected or despised, is ordained

by God. The same idea is conveyed by the lines of the children's hymn:—

The rich man in his castle,
The poor man at his gate—
God made them, high or lowly,
And ordered their estate.

Except, possibly, among the most backward of backwoodsmen, it would be difficult to find an explicit defender of this standpoint in any party to-day. Its principal monument is that still lively institution, the National Society for the Education of the Children of the Poor in the Principles of the Established Church; and that Society now judiciously avoids the use of all but the first two words of its title. With rare exceptions, whatever their private views may be, statesmen of all parties to-day base their declared policies on utilitarian principles. There is not one politician—unless it be Lord Hugh Cecil—who would dare defend any evil or abuse on a public platform by promising its victims compensation in another world. If he did he would not only be discredited, but voted a humbug to boot. Social inequality is defended to-day by secular arguments—the argument, for instance, that superior brains will not discharge their function in the commonwealth without superior rewards. No one, except in country vicarages, defends it on the grounds which would have appealed to the founders of the National Society.

We hear much of the loosening of what is called sexual morality in contemporary society. Although this, like everything else, is exaggerated by the newspapers, such a relaxation exists. But what did we expect? The Christian code of sexual ethics is one of the most irrational and purely dogmatic parts of the Christian religion. It is founded on the assumption that the fulfilment of a physiological instinct, except when directed (with the Church's blessing) to the multiplication of the species, is an act displeasing to Almighty God and punishable by everlasting damnation. Now, thanks to the work of the older Rationalists, young people believe very hazily, if at all, in Almighty God, and not at all in everlasting damnation. Their natural instincts remain what they were before, but the supernatural taboo has gone. In the face of these developments, our legal system and public administration continue to be based on the nasty-minded and thoroughly discredited ethics of the New Testament. Marriage, a relationship contracted usually in the heat of youth and under the influence of romantic illusion, is indissoluble except on the ground of "misconduct," which has to be publicly attested by a repulsive legal process. Divorce by mutual consent is not allowed; indeed, the law provides special machinery for annulling any divorce in which "collusion"

between the parties can be proved. Within marriage, although one would have thought that the question of having children or not was solely a matter for husband and wife, the State, taking its cue again from the Churches, frowns on birth control and refuses to allow its machinery to be used for the diffusion of the requisite information. When we take up, as a community, these incredible attitudes in the matter of sexual ethics, can we wonder that young people refuse to take such nonsense seriously? What are Rationalists going to do about it?

- For those who discard Christianity with its apparatus of apostolic injunctions and taboos, there can be only one sensible view of ethics. Happiness and good, misery and evil, are respectively synonymous. Acts which inflict misery are *pro tanto* immoral; those which reduce or avert it, or which confer happiness, are *pro tanto* moral. To use the words "moral" and "immoral" in any other sense than this is to circulate false coin in the realm of ethics. The marriage law, and indeed the law generally, needs reforming in such a way as to ensure that misery shall nowhere be inflicted save to prevent the infliction of greater. The consequences of adopting this simple principle, and of finally ousting Christianity from its once boasted position as "part and parcel of the law of England," will be found to be somewhat revolutionary; but why should Rationalists lack the courage of their convictions?

Our Movement is obliged to be neutral in party politics on account of the diverse affiliations of its present membership. No similar excuse exists for neutrality on such issues as marriage-law reform and birth control. There may be Rationalists who believe in indissoluble marriage and unrestricted breeding. I have never met them; and such muddle-headedness, if it exists, can hardly be regarded as an asset to be treasured by the Freethought Movement. If we are to appeal to the rising generation, we must go into this fight with the gloves off.

It is hardly possible, again, to exaggerate the importance of the Great War as a factor in re-shaping the issues which call for the application of reason in human affairs. Between 1914 and 1918 it became manifest to all thinking people for the first time in history that civilization was seated on the crust of a volcano which the most trivial political accident might at any moment touch into activity, and which, once in eruption, might finally bury all that makes life worth living beneath a sea of mud and blood. Compared with the peremptory necessity of preventing a recrudescence of this madness while there is yet time, every other issue is of secondary significance. To expend time, money, and energy

in inviting people to examine the evidence for the arboreal origin of *Homo sapiens*, or the composite authorship of the Pauline epistles, and to ignore the possibility that a frontier "incident," followed by a flare-up of nationalist lunacy, may to-morrow relegate all such questions to the limbo of forgotten things, is as grotesque an example of the maldistribution of effort as can well be imagined. I consider, therefore, that every step which can be taken to strip war of its last rag of patriotic romance, and to show it for what it is—a wanton orgy of filth, blood-lust, and lying propaganda—is a blow struck in the interests of reason. Whether the authors of recent war literature call themselves Rationalists or not, I do not know and I do not care. They are doing our work; and we shall be serving our own cause ill if we stand aloof from this righteous and necessary struggle for more light.

Let us make no mistake about it—it is on such questions as these that the world of to-day is awaiting a lead. There is a limit, as I have already pointed out, to the possibilities of purely theoretical propaganda. The number of people who are interested in things which happened, or did not happen, thousands of years ago is necessarily small compared with the number of those who are interested in things which are happening to-day or may happen to-morrow. It is to the second and larger class that we should make our chief appeal. I do not say that we should discontinue our negative criticism of established creeds—far from it. But let us remember that for one person whom such criticism may interest, ten will be aroused by propaganda on practical present-day questions. If we are content to remain purveyors of accurate but academic information on biology and Biblical criticism, salutary as such work is in its way, we shall cut no ice with the average man or the average woman. The Churches will laugh at us as effete mid-Victorians, and we shall go to our graves unwept, unhonoured, and unsung. If, on the contrary, we address ourselves with determination to issues like divorce-law reform, birth control, peace, and other matters which touch everyday life, we shall, I am confident, mobilize such a force of opinion, especially among the young, as will make Rationalism a power at least as formidable as Rome.

ROMAN CATHOLIC PROPAGANDA

By J. W. POYNTER

• **E**VER since the ending of the Great War there has been a noticeable increase in the aggressiveness of Roman Catholic propaganda in England. There are various causes of that increase, and one of those causes is political. Before the War the Roman Catholics in this country were sharply—indeed, very bitterly indeed—divided among themselves. The vast majority were, as they still are, of course, Irish or of Irish descent. The proportion of this Irish section was probably eight in ten. Naturally, they were keen Nationalist politicians, enthusiastically in favour of Home Rule for Ireland. However, the remaining twenty per cent were mostly the descendants of old English Catholic families who had preserved the faith during the Penal Laws period, and that section (then led by the old Duke of Norfolk) was predominantly Tory and opposed to Home Rule for Ireland. This cleavage was all the greater because most of the wealth and social prestige of the Catholic body were in the possession of the Tory minority, the Irish majority being mostly poor but providing the congregations that filled (and in many cases *built*, out of hard-earned pence self-sacrificingly subscribed) the churches. Thus there was a bitter division—a wealthy minority opposed to the dearest national ideals of the majority. The result was that before the War Roman Catholic activity in propaganda in England was very gravely impeded because the members of the Church were fighting among themselves. The Irish Treaty of 1921 put an end to that, and that fact is a very important element in producing the increase of proselytizing effort.

Indeed, I think it is the only new factor which has emerged. There is nothing new in the Roman Church's ambition to "convert England." As long ago as 1869 that ambition was solemnly consecrated by special prayers, ordered by the bishops to be said at the service of Benediction of the Blessed Sacrament on the second Sunday of every month in every Roman Catholic church in England—prayers that "the conversion of this our country" may be "hastened." In the very nature of things, of course, the Roman Church is bound to have that ambition, for her basic dogma, as to her own

constitution, is that she is the One Ark of Salvation. The only new factor, in regard to that Church's position in England, is her increased efficiency for directing her energies to the object in view.

What, however, may be a work of sacred conversion in the eyes of those engaged in it may nonetheless be in reality a work dangerous to the general welfare. I myself was engaged for a number of years (as an enthusiastic volunteer) in Roman Catholic propaganda, and it was the very study and experience resulting from that work that disillusioned me as to the system itself.

The Roman Catholic religion is particularly adapted to exercise a strong hold on those who have given themselves to it. Once its dogmatic basis is accepted, it surrounds the believer with a luxury of devotional charm, while the strong discipline (through the Confessional, the practice of frequent communion, the Guilds, and the whole social and religious atmosphere) holds the believer—especially if he be a convert—in bonds which in many cases, owing to emotional affinity, are not even perceived to be bonds. On the other hand, if a Catholic ceases to believe (even if it be only as to one dogma), he finds the atmosphere as intolerable as to the believer it is full of charm. No liberty of thought, in any real sense, is allowed.

In my own case these tendencies came into conflict. The devotional atmosphere of the Roman Church combined with the desire for certitude to hold me strongly. Nevertheless, a temperamental independence of mind and a habit of examining arguments thoroughly made it impossible for me to accept assertions without sufficient proof, or to acquiesce in actions manifestly unjust. Impartial study of the arguments *pro* and *contra* showed me the untenability of basic dogmas I had accepted too readily. Experience of the working of the ecclesiastical "machine" convinced me that so very worldly and defective an institution cannot be divine. So I left it in 1926.

The most characteristic feature of the world-wide propaganda of the Roman Catholic Church is that it is essentially "two-faced." By that phrase is meant that the theory of the Church is such that its action, if viewed as a world-whole, seems self-contradictory, though really based on a consistent theory. I mean, in brief, that when it is in a majority it is intolerant, but when in a minority it appeals to the principle of tolerance. Yet that apparent self-contradiction rests on a logical consequence of the Church's own theory of her prerogatives. Her position is this: "I teach divine truth; truth cannot willingly tolerate error, so, if in power, I must be intolerant; but, on the other hand, it is wrong for truth to be suppressed; so, when I am weak, I demand toleration."

Though self-consistent, however, such a theory is fundamentally illogical when considered in relation to the community at large. It is all very well for the Roman Church to say : " I am a teacher of truth " ; but what of people who reply : " You are not " ? It is no good merely *asserting*. When contradictory opinions are upheld the only way to find which is true is to investigate freely ; and that implies a tolerant atmosphere.

However, unreasonable though the Roman Church's basic assumption is in a world such as that in which we live, the fact remains that such assumptions are made, and such an attitude is taken up, by a powerful world-wide institution ; therefore all people interested in the general welfare must reckon with it.

Roman Catholic propaganda in England, as in other non-Catholic countries, aims at obscuring as much as possible the fact that the Church is still wedded to its mediæval principles. With regard to the real policy of the Church, however, one of the facts it is needful to keep in the public eye is that the principles it expressed by its mediæval activity are still maintained, only the phraseology is somewhat altered by adaptation to the conditions of the modern world. It is needful, then, to understand accurately the modern Roman Catholic teaching as to Church and State. For that purpose we may quote from some encyclical letters of Pope Leo XIII, a Pontiff who, more than any other of modern times, dealt in elaborate detail with nearly all main problems of religion and society. He said :—

Just as the end at which the Church aims is by far the noblest of ends, so is its authority the most exalted of all authority ; nor can it be looked upon as inferior to the civil power, or in any manner dependent upon it.

No one doubts that Jesus Christ, the Founder of the Church, willed her sacred power to be distinct from the civil power, and each power to be free and unshackled in its own sphere : with this condition, however—a condition good for both, and of advantage to all men—that union and concord should be maintained between them ; and that on those questions which are, though in different ways, of common right and authority, the power to which secular matters have been entrusted should happily and becomingly depend on the other power which has in its charge the interests of heaven.

If the laws of the State are manifestly at variance with the Divine law, containing enactments hurtful to the Church, or conveying injunctions adverse to the duties imposed by religion, or if they violate in the person of the Supreme Pontiff the authority of Jesus Christ, then, truly, to resist becomes a positive duty, to obey a crime.

In defining the limits of the obedience owed to the pastors of souls, but most of all to the authority of the Roman Pontiff,

it must not be supposed that it is only to be yielded in relation to dogmas of which the obstinate denial cannot be disjoined from the crime of heresy. Nay, further, it is not enough sincerely and firmly to assent also to doctrines which, though not defined by any solemn pronouncement of the Church, are by her proposed to belief, as divinely revealed, in her common and universal teaching, and which the Vatican Council declared are to be believed "with Catholic and Divine Faith." But this likewise must be reckoned among the duties of Christians, that they allow themselves to be ruled and directed by the authority and leadership of bishops, and above all of the Apostolic See.

Justice therefore forbids, and reason itself forbids, the State to be godless, or to adopt a line of action which would end in godlessness—namely, to treat the various religions (as they call them) alike, and to bestow upon them promiscuously equal rights and privileges. Since, then, the profession of one religion is necessary in the State, that religion must be professed which alone is true [the Pope meant, of course, Roman Catholicism].

While not conceding any right to anything save what is true and honest, she [the Church] does not forbid public authority to tolerate what is at variance with truth and justice, for the sake of avoiding some greater evil, or of obtaining or preserving some greater good.....But, to judge aright, we must acknowledge that the more a State is driven to tolerate evil the further is it from perfection, and that the tolerance of evil which is dictated by political prudence should be strictly confined to the limits which its justifying cause, the public welfare, requires.

Although, in the extraordinary condition of these times, the Church usually acquiesces in certain modern liberties, [she does so] not because she prefers them in themselves, but because she judges it expedient to permit them, [and] she would in happier times exercise her own liberty.....[Some people of "liberal religious" views] oppose not the existence of the Church, nor indeed could they; yet they despoil her of the nature and rights of a perfect society; and [they] maintain that it does not belong to her to legislate, to judge, or to punish, but only to exhort, to advise, and to rule her subjects in accordance with their own consent and will. By such opinion they pervert the nature of this divine society, and attenuate and narrow its authority, its office of teacher, and its whole efficiency.*

To appreciate the full meaning of all this it must be borne in mind that, in the view of the Roman Church, everything which is opposed to her teaching is thereby also necessarily opposed to that of God; is "at variance with truth and

* Leo XIII, encyclicals: (1) *Immortale Dei*: 1885; (2) *Arcanum Divinae*: 1880; (3 and 4) *Sapientiae Christianae*: 1890; (5, 6, and 7) *Libertas*: 1888. (See *The Pope and the People: Letters of Leo XIII, etc.*, pp. 50, 40, 112, 120, 83, 89-90, 90-92.)

justice"; is "evil"; is "at variance with the Divine law"; is "adverse to the duties imposed by religion." In the words of the English Roman Catholic catechism*: "The Church cannot err in what she teaches as to faith and morals, for she is our infallible guide in both." To what sphere of life, however, does the term "morals" not apply? Evidently, then, the Roman Church's claim of a right of intervention (even by "legislating," "judging," "punishing," and declaring it to be "a crime to obey" any given State law) is limited, as a right, only by the Church's own discretion.

When this is realized it will be seen how far-reaching is the Roman doctrine of Church and State. It comes to this: The Roman Church is above all States, and in no way depends on them; the State, while verbally acknowledged to be independent of the Roman Church, is so only on condition that it agrees with that Church or defers to it in controversies; State laws, opposed to the Roman Church, are not binding in conscience, and it is "a crime to obey" them; Roman Catholics are bound to obey not merely the "defined doctrines" of the Church, but also *anything that bishops command*; the State should profess Roman Catholicism, and refuse equal rights to other "religions (as they call them)"; the Roman Church acquiesces in the State's toleration of some things opposed to Roman Catholicism, not as "a right," but only to avoid greater troubles; and she looks for "happier times" when such acquiescence will not be necessary, and she will be able to use freely her "whole efficiency," by "legislating, judging, and punishing."

In order to understand any conflicts whatever which occur, or have occurred, between the Roman Church and any civil State, it is needful fully to realize this Papal point of view. The Roman Church regards herself as superior to States; as the infallible judge not of faith only, but also of morals; as possessed of a right to coerce not only private individuals, but also rulers of States; and she looks on modern restrictions of those rights as regrettable facts which "in happier times" will not exist.

In England itself this Roman point of view is expressed mainly in the incessant and ever-increasing demands of the Roman Catholic hierarchy in the matter of education. A few remarks, therefore, may be useful in regard to the theory held by the Roman Church in that matter. It is uncompromisingly set forth by the present Pope in his recent encyclical, *On the Christian Education of Youth*. The following quotations† will make it clear:—

* *A Catechism of Christian Doctrine*, Question 100.

† *Christian Education of Youth* (Catholic Truth Society translation), pp. 6, 7, 10, 11.

And first of all education belongs pre-eminently to the Church, by reason of a double title in the supernatural order, conferred exclusively upon her by God Himself ; absolutely superior therefore to any other title in the natural order..... By necessary consequence the Church is independent of any sort of earthly power as well in the origin as in the exercise of her mission as educator ; not merely in regard to her proper end and object, but also in regard to the means necessary and suitable to attain that end..... Again it is the inalienable right, as well as the indispensable duty, of the Church to watch over the entire education of her children, in all institutions public or private, not merely in regard to the religious instruction there given, but in regard to every other branch of learning and every regulation in so far as religion and morality are concerned..... The extent of the Church's mission in the field of education is such as to embrace every nation, without exception, according to the command of Christ, "Teach ye all nations"; and there is no power on earth that may lawfully oppose her or stand in her way..... Nor should the exercise of this right be considered undue interference, but rather maternal care on the part of the Church in protecting her children from the grave danger of all kinds of doctrinal and moral evil.

When we realize, then, that the Roman Church (1) claims to be independent of any State control ; (2) claims a right to superiority over the State, whose laws it can condemn ; (3) denies the principle of toleration ; (4) claims control of education ; (5) claims, by the *Index of Prohibited Books*, a right to censure literature—then it is obvious that such a Church is an enemy of progressive culture. In countries where the Roman Church is in power these facts cannot be hidden ; but they are obscured elsewhere, and it is needful to insist on them.

In England the Roman Catholic Church has many very efficient engines of propaganda in addition to its ordinary ecclesiastical framework. There are the Catholic Truth Society, the Guild of Ransom for the Conversion of England, the Catholic Missionary Society for giving lectures to "non-Catholics," the Catholic Evidence Guild for lecturing outdoors, the Catholic Reading Guild for disseminating apologetic books, the Catholic Guild of Israel for propaganda among Jews, the Catholic Federation for general Catholic defence, and the Knights of St. Columba for organizing the laity for mutual aid. Every possible effort is made to influence the press, public bodies, and politicians. It is uncertain how much success is attained ; in any case, there is a formidable "leakage" from the Church to counteract the accessions. However, the efforts are incessant, and merit the attention of all students of our social problems.

THE NUMBERS AND DISTANCES OF THE STARS

By J. STARK BROWNE, F.R.A.S.

• **A**WE-INSPIRING in its grandeur is that wonderful panorama which, on clear dark nights, we see in the heavens above us—that jewelled canopy sparkling from east to west, and from north to south, with its myriad diamond points of light. How it shines in its eternal silence! How changeless the stars appear, year after year, their relative positions the same, their light undimmed! From very early ages the picture has awakened emotions of wonder and stirred the imaginations of gazers. In less-informed times than our own it led to the peopling of the skies with those strange figures that astronomy has preserved to the present day in its nomenclature of the constellations. We now know facts about the stars of which our fathers were in ignorance. They are no longer associated in our minds with gods, heroes, and dreaded interferences with our-every-day concerns. We view them with deeper interest and a more understanding mind when we contemplate the marvels revealed to us by the discoveries of science.

On a clear night we step out from our door; we leave behind us the garish lights, the noise and bustle of life, and we are face to face with the hosts of heaven moving in their splendour across the skies. Some of the brightest are scintillating low down towards the horizon, some are burning with a steady blaze; some are blood-red, some silvery white, some steely blue, some yellow; some are so bright that their lustre almost dazzles our eyes, some so faint that their dimness tells only of the vast depths of space into which they are sunk.

How calm everything is! Not a sound is heard from those countless million stars; and yet, as we listen, it seems as if we might almost catch faint far-off echoes of that music of the spheres:—

There's not the smallest orb that thou behold'st
But in his motion like an angel sings.

The stillness of the heavens is, however, apparent only, for commotion of the fiercest kind is raging on all sides. Stars are suns, and suns are spheres of fire blazing with fury indescribable; scenes of activity so tremendous that no

vehemence of tempest or tornado on earth can give the slightest idea of their fearfulness.

Our own sun is such a fiery orb, and, owing to its comparative nearness, we can detect some of its storms. We see them when we watch the spots which appear from time to time upon its surface. Sun-spots are maelstroms of activity. They appear to be dark, in parts almost black; but this is only by contrast with the surrounding brightness of the sun's photosphere, and we can have little doubt that they are due to solar tides and cyclones. Tongues of blazing gas, known as prominences, can be detected, at times, bursting with incredible velocities, to great heights above the sun's surface.

Now, the stars are masses of flaming vapour agitated with more or less violence, comparable to what we see going on in the sun, for they also are suns. Yet, to our eyes, they shine so quietly that we could never realize their conditions did we not know how remote they are from our earth. We can give no adequate idea of the distances of the stars by long arrays of figures, for these convey little to our minds. We will try, however, to explain them in some other way. We will learn, first, the distance of the sun. We say it is about 93,000,000 of miles from our earth. If an aeroplane could fly to the sun at the rate of one hundred miles an hour for four and twenty hours a day, it would take more than one hundred years to reach its destination. Such is the meaning of ninety-three millions of miles!

Observations show that the nearest of the stars is not less than 250,000 times as far off as the sun. There are two stars in the constellation of the Centaur, in the southern skies, which are about this distance, and they seem to be our nearest neighbours in space. The larger star is known as Alpha Centauri. If we can imagine our sun as a small ball, with our earth the size of a pea circling round it at a distance of eighty yards (an orbit we could place in any cricket field), upon the same scale of reduction Alpha Centauri would be in Australia, so isolated are we in space. We must find some swifter speed than that of an aeroplane to measure such distances. Light moves at the rate of 186,000 miles a second, and at this enormous velocity it covers six million million miles in a year. This distance is known to astronomers as a "light-year." Even at this speed it would require four and a quarter years to reach us from Alpha Centauri. This is what we mean by a *near* neighbour in space.

The distances of the stars are calculated usually by measuring their parallaxes, or the angles subtended at the stars by our earth's orbit of 186 millions of miles. For most of the nearer stars these parallaxes are very minute, and the far greater number of the more remote cannot

be detected at all, even by our most powerful instruments. Let us see what this means. Almost the smallest measurable parallax represents a distance from the earth of about 325 light-years. There are thousands of such stars in the heavens whose light, which we see to-night, left them to travel to our earth in the days of Queen Elizabeth, or when Shakespeare was writing his incomparable dramas. These rays of light have not loitered on the way. They have sped to our earth at the rate, as I have said, of six million million miles a year. Fifteen monarchs have sat on the throne of England, eleven generations of men have lived and died and been gathered to their fathers, since the beams which we see to-night first started upon their momentous journey across space. The Pilgrim Fathers were just settling in America. That great continent was then an unexplored wild. Its entire civilized history has been made while those waves of light have been crossing the gulf separating us from the stars whence they came.

But these stars are among our nearer neighbours—indeed, huddled almost close to us—when compared with others in the galaxy. Astronomy is not static. The oldest of sciences, it is yet one of the most progressive. It is always searching, and it welcomes new discoveries. As its instruments of research improve so does its horizon grow wider and further off. If ever the proposed 200-inch telescope becomes a reality and carries our vision to unplumbed depths of space beyond what our present largest instrument (the 100-inch reflector at Mount Wilson, California) can reach, there will be no astronomers with antique theories to uphold who will deny or conceal such revelations. Truth, as found by observation, tested and re-tested, is the slogan of the patient searchers of the heavens.

We are living in the days of some such great advance of astronomical knowledge. The new discoveries to which we refer relate to the size of the visible universe and to the numbers of stars it contains. First as to the extent of the universe. We cannot now go into the processes by which the far remoter distances have been measured. It must suffice to state that they have the support of astronomers of repute, and the results have been checked again and again. We must be content to put before our readers some of the calculations arrived at. They will show that our conceptions of fifty years ago as to the extent of the visible universe were indeed very moderate compared with the actual truth known to-day. Stars are now catalogued whose light has been travelling earthwards since the dawn of history on our globe. Those beams do not tell us the present conditions of the stars from which they come. They reveal them to us as they were thousands of years ago. For all we can know

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to the contrary, some may no longer exist. That supposition is, however, an unlikely one, for stars live for æons of ages; they are not ephemeral things, here to-day and gone to-morrow. There is no hint in the universe of their casual creation six thousand years ago—"He made the stars also," as though they were an afterthought on the part of the Creator. Nor can we detect any signs of their immediate dissolution. Their activities are of almost infinite duration.

In addition to the stars proper, many of which are double, triple, or even multiple—stars revolving about stars—there are a number at enormous distances from the earth which, while appearing to our unaided eyes as single, are known to be clusters of stars. The beautiful one in the constellation Hercules known as M.13 is a very fine example. It probably contains more than 100,000 individual stars, all at immense distances from each other, but held together and revolving about their common centre of gravity and forming an island universe. There are many such, mostly lying on the confines of our galaxy (called *ours* because it happens to be the one in which our sun is situated, and until recently believed to be the only one in the universe). This galaxy forms an immense elongated lens-shaped system, so vast that light takes 300,000 years to cross it at its greatest diameter. Try to think of it! Light travelling at six million million miles a year needing 300,000 years to cross our galaxy, which we now know is but one among millions of similar galaxies in the universe. Let us consider them for a few moments.

Our largest telescopes reveal in all directions in the heavens, almost on the extreme verge of sight, certain wisp-like patches of nebulæ, more or less of spiral form, which have long puzzled astronomers. There were observers even a generation ago who held, although with some hesitation, that these were external galaxies comparable to the one we see about us. They appear as extremely faint objects, dimmed almost to extinction by their immense distances. But until the new methods of space measurements were discovered we had no possible line long enough to plumb to their depths, and so their nature could only be guessed at. It has now been found that these spiral nebulæ are actually star clusters, or galaxies, external to our own galaxy, and at previously unimagined distances. The finest specimen in the skies is just faintly visible to our unaided sight in the constellation Andromeda. It is probably the nearest of these external universes, and is an immense mass of stars lying in space distant from us by no less than 900,000 light-years. Beyond this cluster, as far from Andromeda as Andromeda is from us, are innumerable other clusters—millions of them. Probably about two millions lie within a distance of 140 million light-

years. Our plumb-line has indeed been cast into the depths of space, but it has not yet touched bottom. So vast are the distances reached that it is thought by some that we have come to the boundaries of occupied space, and that further extent is impossible. If this should be so, we shall have to conclude that we have touched infinity, as far as what is infinite *can* be grasped by mortal minds.

When we consider such distances, can we wonder that we are unable to perceive anything of the fierce commotions we know to be going on in the starry systems, or that the enormous sizes of the objects we see are dwarfed to the faintest points or patches of light?

And now a few words about the number of stars in the universe. In gazing at the diamond tracery of the skies we imagine them to be innumerable. In reality only about two thousand above the horizon at any time are visible to our unaided sight. The telescopes reveal millions more, and on the photographic plates they print themselves in their hundreds of millions. Fifty years ago the probable total number of stars was estimated, very cautiously, at two hundred millions. Later on it was thought that it might reach to two thousand millions. It is now assumed roughly, since the recent discoveries have been made, that there are about 30,000 millions of stars in our galaxy alone. But what about the external galaxies or universes which lie at such unimaginable distances outside our own? These galaxies are similar to ours; probably some may be as large. We have said that our largest telescopes reveal millions of them. What do they represent to us in individual stars or suns? Exact calculations are, of course, impossible, but estimates can be made in somewhat rough fashion by calculating averages. Lest we should seem to be exaggerating, we will quote from Sir J. H. Jeans, F.R.S.,* one of our foremost authorities on the subject. He says, in speaking of the probable number of stars in the universe: "The same number of grains of sand spread over England would make a layer hundreds of yards in depth." Try to imagine it the next time we stand on the seashore and lift up a handful of sand. And then let us remember that our world, so great to us, is equal to one-millionth part only of *one* such grain of sand. Then perhaps, as Sir James Jeans says, "our mundane affairs.....will begin to appear in their correct proportion to the universe as a whole."

We have said that the stars live and function for enormous periods of time. Our sun, which is our more intimate star, is thousands of millions, probably billions, of years old. It lives, like the human creatures who derive their existence from it, by burning away its own energy. It loses in heat

* *Nature*, March 24, 1928.

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and light radiation four millions of tons weight every second. It has incalculable stores in reserve, but they are not inexhaustible, and must some time come to an end. The same process is going on throughout all space. If the universe were eternal, it would seem that finality ought to have been reached, and the whole machinery run down, infinite ages ago. As we know that this is not so, either the cosmos is, astronomically speaking, recent, or the process of finality is never reached owing to some at present unknown recuperative power it possesses. Where does all the heat and light go to that is being radiated into space? We see in the skies young stars as well as old stars. We know that there are immense numbers of dark or extinct stars. Death and re-birth is the probable fate of all stars, even as on earth all forms pass through death to emerge again into life in newer forms. We can only give our surmises, but we shall in all likelihood never know for certain the whence or the whither of the starry systems.

When we realize the vastnesses among which we find ourselves, when we remember that the life of our race is but as a ripple upon the ocean of time, and our earth but as a millionth part of a grain of sand on the infinite shores of space, how insignificant must seem the restless strivings, how vain the exaggerated assumptions, of our little lives. "What is it all but the trouble of ants in the gleam of a million million of suns?" Yet surely, as we contemplate the marvels opened up to us by the study of astronomy, these brilliant gems of the sky become more real to us, more dazzling in their beauty, more full of poetry, more awe-inspiring in their grandeur, than ever they were when thought to be spheres fixed to the vault of heaven, or when they were believed to rule, in some strange way, the destinies of mankind.

A writer has said: "The psalms of Orion and the Pleiades are as lasting as the heavens." But who are the true psalmists save our quiet, patient workers of the night—the astronomers, industriously adding observation to observation and fact to fact, registering the great marvels they see in the skies, but neglecting nothing of the apparently insignificant and trifling, for who can tell to what great issues trifles may lead? And the means they use—the telescope, the spectroscope, the photographic plate, and all the delicate array of apparatus devised by their fertile brains—are not these the instruments through which their harmonies are sounded forth to the world? And we, listening to this wonderful music of the spheres, are filled with emotions of the deepest humility and awe, but at the same time with a great pride in the achievements of the mind of man in wresting from the dark universe about us some of its long-hidden secrets.

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IN DEFENCE OF REASON

By C. E. M. JOAD

I

• OUR age—the fact is notorious—is one of little faith. We are lukewarm in religion, unimpressed by authority, distrustful of moral codes, and impatient of moral restraints. We are also, though the fact is less often realized, sceptical about reason. The present position of reason is, indeed, highly paradoxical. On the one hand, the last twenty years have seen the triumph of critical and militant Rationalism; on the other, the world of thought has been swept by a wave of irrationalism, which threatens to undermine the seat of Reason and to abrogate her authority by exhibiting her as a mere cork floating on the waves of instinct and desire.

The nineteenth century believed, on the whole, that reason was free. Its deliverances might be, and no doubt in practice frequently were, biased by prejudice and distorted by desire; but the fact that reason could be deflected by these influences was a temporary defect due to man's incomplete evolution. It was, indeed, a basic assumption of the age that reason in theory could, and in practice often did, operate freely. It could arrive at an impartial and "reasoned" choice between alternative courses of action; it could take a disinterested survey of evidence with a view to forming a "reasoned" conclusion or belief. It was only in so far as men's reasons operated "freely" in choosing and believing that they could be said to act and think "rationally." Fortunately, however, they had already reached a stage of evolution at which appeals to their "free reason" were sometimes successful, and, under the influence of education and other enlightening forces, the degree of their "rationality" might be expected continually to increase.

Now, this view of reason was, I suggest, fundamental in nineteenth-century thought. J. S. Mill, for example, to take a typical representative of the time, tells us of his father that "so complete was his reliance on the influence of reason over the minds of mankind, whenever it is allowed to reach them, that he felt as if all would be gained if the whole population were taught to read, if all sorts of opinions were allowed to be addressed to them by word and in writing, and

if by means of a suffrage they could nominate a legislature to give effect to their opinions." Truth, in other words, will out, if men's minds are only given a fair chance to find it; for, being reasonable by nature, men have only to be given access to truth to recognize it. And, speaking of himself and his friends, J. S. Mill goes on to say that what they "principally thought of was to alter people's opinions; to make them believe according to evidence.....which, when they knew, they would, we thought, by the instrument of opinion enforce a regard to it upon one another."

I do not think that I can better convey the change that has come over the intellectual climate of our age in regard to its attitude to reason than by saying that both these quotations, which passed without comment in the nineteenth, would be immediately questioned in the twentieth, century. Twentieth-century thought no longer assumes either that men will embrace the truth when they see it, or that they will alter their opinions because reasonable grounds are adduced for their doing so. And this assumption is no longer made, because men to-day are fundamentally sceptical of the part played by reason in determining our conduct and forming our beliefs. Reason, it is widely suggested, is a mere tool or handmaid of desire. Its function is to secure the ends which we unconsciously set ourselves, by inventing excuses for what we instinctively want to do and arguments for what we instinctively want to believe. There is, in fact, at bottom very little difference between reason and faith; for, if faith be defined as the power of believing what we know to be untrue, reason is the power of kidding ourselves into believing that what we want to think true is true.

Now, on this issue I am inclined to side with John Stuart Mill. I am, that is to say, an unrepentant Rationalist, in the sense that I believe that reason operating freely can, on occasion, both form our beliefs and motivate our actions; but I realize that it is considerably more difficult to take this view of reason than it was in Mill's time, and I realize also that many who regard themselves as good Rationalists adopt a psychology which implicitly denies it.

I want, therefore, in this article very briefly to summarize the factors in modern thought which are inimical to Rationalism, in so far as Rationalism presupposes the free employment and unbiased operations of reason, and to indicate what appear to be the minimum psychological conditions which must be satisfied if reason is to be free.

II

Prominent in the field of reason's adversaries is the conception of the human psyche with which modern psychology

in general and psycho-analysis in particular have familiarized us. They have sponsored a widespread tendency to regard our nature as fundamentally instinctive in character, and reason as an offshoot of instinct, whose operations are determined by instinct, and whose function is limited to discovering means for satisfying instinct. The origin of man and the fact that his roots are deep down in nature are emphasized; the inference is that fundamentally he is swayed by the same kind of *natural* forces as those which determine the animals. Of these *natural* forces we know very little, especially since we have succeeded in evolving reason, one of whose main functions is to rationalize them, and so disguise from us their real character. But reason is itself an expression of these instinctive *natural* forces, one of the latest and the weakest; it is a feeble shoot springing from a deep, dim foundation of unconscious strivings, and maintaining a precarious existence as their apologist and their handmaid. That this or something like it is the conception of reason sponsored by the work of Freud, of Adler, and of Jung, few, I think, would deny; and that the conception is destructive of the spontaneity and freedom of rational processes is, I think, equally undeniable, though many would wish to deny it.

I propose, therefore, in illustration of my contention, to cite a few relevant examples of the workings of psycho-analytic machinery.

For Freud, at any rate in his earlier writings, the conscious is completely determined by the unconscious; all the mental events of which we are conscious are, indeed, merely sublimated versions of the unconscious strivings of the *libido*. Now, we do not know what is going on in the unconscious; if we did, it would not be unconscious; therefore, we cannot control it; therefore, we are not responsible for the nature of the material which subsequently appears in consciousness. Admittedly there is the machinery of the Freudian censor, which, stationed on the stairway between the unconscious and conscious, prevents the intrusion of undesirable elements from the former into the latter; or, if he cannot wholly prevent, he can at least change and edify, so that an unconscious desire to elope with a waitress may appear in consciousness as a sudden aversion from pickled cabbage. But this activity of the censor takes place below the threshold of consciousness; hence the censor's success in edifying or in wholly inhibiting is something for which we are not responsible. The conclusion holds, therefore, that the strength and direction of the desires which appear in consciousness are matters outside our control. And reason? Reason is itself a form of desire imperfectly disguised, or, if it is not precisely a desire, it can function

only in so far as we *desire* to employ it. Hence, when a conflict arises between reason and an unruly desire which reason seeks to suppress, the issue of the conflict will depend upon the strength of the respective desires involved. For these, as we have seen, we are not responsible ; therefore, we are not responsible for the issue of the conflict.

Impotent in matters of conduct, reason plays no more imposing a rôle in the formation of belief. Freud's later work is largely concerned to represent the more advanced achievements of the human spirit as compensations which we have invented for those instinctual renunciations which the existence of society demands. They thus come to be regarded as the necessary conditions of society's functioning. Religion was treated in this way in *The Future of an Illusion*, being derived from our desire for a heavenly father and protector to take the place of the earthly one who fails us. The conclusion acceptable to Rationalists in its bearing on religion is apt to be disconcerting when it is extended to embrace activities which we are accustomed to regard as rational—to science, for example, to ethics, or to art. Thus ethics, which we have been wont to think of as a product of reason, is, on this view, merely a barrier which man has invented to hold in check the instincts whose release would make society impossible. Conscience, in fact, is society's policeman implanted in the individual. Hence our beliefs about what is right and good are determined by the nature of the instincts which society feels to be most dangerous to it. For example, the ethical demand to respect our neighbour and treat him as a person possessing equal rights with ourselves is a precaution against our instinctive tendency to hate him. It is not a rational precept, as we fondly believe ; it is imposed upon us by the necessity of thwarting our instincts.

As with ethics, so with science ; and so too with intellectual activity in general. We indulge in intellectual activity as a compensation for thwarted instinctual activity. What is more, the views we hold on apparently abstract questions are determined by the nature of the particular instincts whose substitute gratification is being sought in the intellectual activity which leads to their formation. Our instinctive desires, in fact, determine what we think true just as much as they determine what we think right ; and the reasoning activity, which proceeds to provide us with arguments for reaching the conclusions which our instincts have already determined, is a sublimation of the same instincts. To trace the origin of so-called rational activity in the instinctive needs which it satisfies is to demonstrate the forces which determine both its direction and its conclusions. This is done in Freud's latest book, *Civilization and its Discontents*.

The same conclusion is reached in Adler's psychology, although by a different route. For Adler the key to human psychology is the desire to compensate for an unconscious feeling of inferiority. This feeling takes its rise in childhood in the forced recognition of an impotence and deficiency, of which the child is made only too painfully aware by the outrageous knowledgeable and competence of its elders. The feeling of impotence is usually concentrated upon some particular defect, the rectification of which becomes the life object of the individual. The set of circumstances which, if realized, would rectify it is called by Adler the life goal. Thus the physical weakling unconsciously sees himself as Mussolini ; the child who cannot draw as Botticelli. The life goal once established determines the direction of our activities throughout life. And not only of our activities, but of our beliefs ; for just as we shall have only those experiences, so shall we form only those views, which are compatible with its realization.

As, however, the life goal is unconscious, we shall not know this ; hence we shall go through life under the delusion that our reason is operating freely in arriving at conclusions which, if Adler's psychology is correct, are already predetermined for us by the nature of the inferiorities for which we are under the necessity of compensating.

I will cite one more example, this time from psychology proper, afforded by McDougall's well-known theory of instinct. According to this theory (I am quoting from McDougall), "the instincts are the prime movers of all human activity ; by the conative or impulsive force of some instinct every train of thought, however cold and passionless it may seem, is borne along towards its end.....all the complex intellectual apparatus of the most highly developed mind is but the instrument by which these impulses seek their satisfaction.....Take away these instinctive dispositions, with their powerful mechanisms, and the organism would become incapable of activity of any kind ; it would be inert and motionless, like a wonderful piece of clockwork whose main-spring had been removed."

Reason, in other words, is a mere mechanism ; it is the engine of the personality, and instinct is the steam that sets it going. And, since reason can operate only under the impulsive force of instinct, it can proceed only along the path which instinct indicates to the goal which instinct dictates.

The conclusion is the same as Freud's. As regards conduct, the notion of the *rational* will—that is, of a will which operates freely to discipline the passions and regulate the conduct—is a delusion. Either the will is a form of instinct, an instinct conceivably to suppress other instincts,

or an instinct for the good of the whole, or it is not. If it is not, it is only instinct which can bring the will into operation. If the instinct to use the rational will to suppress an undesirable instinct is stronger than the instinct suppressed, reason is said to triumph; if not, we are said to yield to temptation. But the issue is one which is determined by the respective strengths of the conflicting instincts, and reason plays no part in its decision.

So far as thought is concerned, reason is a mere tool for reaching those conclusions to which our instincts prompt us. The beliefs we hold are not the result of an impartial survey of the evidence, but are reflections of the fundamental desires and tendencies of our nature. We believe what we do upon instinct; but we have also an instinct to use our reason to find arguments in support of our beliefs. Reason, therefore, is suborned from the first; she can dance only to the tune which our instincts pipe her.

III

To emancipate reason from servitude both to the stimuli of the body and the urges of the *libido* is a considerable task, nor can it be attempted here. I can only indicate very briefly the sort of view which alone seems to me to safeguard the freedom of its operations. If reason is to be free, all views of the mechanistic type must, so far as I can see, be abandoned. The mind must be able to function otherwise than as the result of causation by the body or by the instincts or by the unconscious, and must be credited with the power of freely initiating thought.

What seems to me sound in modern psychology is its insistence on the purposive character of living activity. For a psychology of atomic constituents, based upon a mechanism which is becoming increasingly unworkable in the physical sciences, it substitutes a spontaneous, creative impulsion which is the essence of all vital behaviour. This impulsion is purposive in the sense that it can be adequately interpreted only in terms of the goal which it is seeking to realize.

Where this psychology seems open to objection is in the distinctions which it tends to introduce within the impulsion itself—distinctions which result in differentiation of the human psyche into different faculties, and in particular in a separation between instinct and reason. As the result of this separation reason tends to be represented as a mere tool of instinct, employed to achieve ends which are not its own. A better way is surely to regard living activity as one and continuous in and through all expressions of itself, these expressions being differentiated solely in terms of the

ends to which they are directed. It is the same living activity which moves us to acquire food when we are hungry, and to discover the differential calculus when we are inquisitive. In fact, man is chiefly to be distinguished from the animals in virtue of the different ends to which the impulsion of the living activity, the same in him as it is in them, prompts him.

Evolution is a process which transforms the subconscious cravings and blind urges of the animal into the intelligent foresight and rational motivation of the human being. The important point is that the qualities of spontaneity and creativity which characterize the activity at its lower levels still characterize it at its higher. A man is as free when he acts reasonably as when he acts instinctively, as much his own master when he pursues abstract knowledge as when he breaks the furniture in a rage. Reason, in fact, is not something tacked on to instinct; still less is it a tool which instinct has evolved. It is simply instinct at a higher level, directed upon novel ends. In other words, it is possible to desire a thing *per se* because it is the reasonable thing to desire, just as it is possible to do a thing because it is the reasonable thing to do, and to hold a belief because in all the circumstances it is the rational belief to hold. In fact, a being may be defined as reasonable just in so far as he does so desire, act, and believe.

Along these lines it seems possible to maintain the view of life as a self-determining and creative agency, without thereby degrading reason to the status of a mechanical tool of irrational instincts. In my view, it is only on some such lines as these that, in the light of modern psychology, the freedom of reason can be vindicated.

CRIME AND PUNISHMENT:

AN INCONCLUSIVE DIALOGUE

By GERALD BULLETT

SCENE: STRAND

PERSONS: SIMMIAS AND PHILEMON

PHILEMON: Happily met, Simmias. You are the very man I most wished to see. As I stood here staring at the Law Courts, and pondering a problem that has greatly exercised me of late, the thought flashed into my mind that if only I could have a few minutes with you, Simmias, the whole matter would be made plain in no time. And then, suddenly, as if in answer to my thought, here you are. It is almost a miracle, isn't it? But, of course, you don't believe in miracles?

Simmias: That question hardly needs answering.

Philemon: You are right, my dear friend. For your opinions on such questions are well known. I have often heard you insist on the necessity for scepticism. And it is precisely because I know you to be the least credulous of persons that I feel sure you will be able to help me now, if you can spare me a moment or two of your time.

Simmias: I will do my best. What is your problem?

Philemon: The question that begins to perplex me is that of Crime and Punishment. I feel that for you and me, who reject supernatural sanctions, there is some difficulty in finding a justification for our practice of punishing those who are guilty of what we call crime. It seems to me that both terms stand in need of definition.

Simmias: I do not see the necessity. Everybody knows that crime is wrongdoing, and punishment the penalty for wrongdoing.

Philemon: That is excellent. And now we must set about defining wrongdoing. Do not tell me that it is doing wrong, because I have already guessed as much. It will be more to the point if you explain to me what wrong is.

Simmias: I do not understand your difficulty.

Philemon: Be patient with me, and I will try to express myself more clearly. Let me put it this way. Believers in God tell us that to do His will is right and to oppose His will is wrong. But that is to appeal to an authority which you and I do not recognize. We are agreed so far?

Simmias : I see what you are driving at. And it seems to me all very simple. Let me amend my hasty definition and say that crime is that which contravenes the law not of God but of man.

Philemon : And may we go further and say that these laws are based not on any abstract morality but on expediency, and that nothing is more grotesque than that those who administer the law should claim to be acting in the interests of justice?

Simmias : On the contrary, I think the claim eminently reasonable, and one that cannot be seriously called in question.

Philemon : Do you then contend that expediency and justice are one and the same thing? For you have already admitted, you will remember, that the law and its administration are matters of expediency.

Simmias : I see that you are trying to persuade me to contradict myself. But I am not to be caught. You are hinting at an opposition, or at least at a distinction, between justice and expediency. I do not recognize any such distinction. Since we are agreed that Divine Justice is no more than a sentimental fancy, it is clear that the only conception of justice that we can entertain is in no way different from expediency, provided that we are considering what is expedient for society as a whole rather than for individuals—which means, in the last resort, the control of the minority by the majority. Justice, in a word, is nothing more or less than public expediency. And any action is a crime which opposes public expediency as codified in the law of the land. I hope I am making myself clear to you.

Philemon : Perfectly, and I think there is nothing in your definition of crime that a reasonable man cannot agree to. But I am not so sure about punishment. I think that perhaps there is more to be said on that head. You have told me that punishment is the penalty for crime—which, indeed, is obvious enough. What I am now anxious to learn is this: from what motive, and with what purpose, is this penalty imposed?

Simmias : Surely that is equally obvious. The aim of punishment is to enforce the law.

Philemon : And does it succeed in that aim?

Simmias : Unquestionably.

Philemon : Yet unless the law has been broken there is no occasion for punishment. Is not that so?

Simmias : It is.

Philemon : We have then a somewhat curious situation. Punishment enforces the law; yet the existence of punishment pre-supposes that the law is broken. This seems to me a contradiction.

Simmius : That, my dear Philemon, is the merest verbal quibble. I can hardly think you serious, but I will explain the matter in terms so simple that even a child could understand them.

Philemon : That will be very kind of you, and it is just what I want.

Simmius : Then listen. The law is made. The law is broken. The breach is punished. And thus the law is enforced.

Philemon : Now I understand. You have made it all very clear. I am to take it then that people who have once been punished never again venture to break the law?

Simmius : That, I am afraid, is not so. You can hardly have failed to notice that once a man has been to prison the chances are all against his becoming a law-abiding citizen. As often as not he proves incorrigible, and repeats his crime at the earliest opportunity.

Philemon : You surprise me, especially in view of the claim you made a moment ago : that the purpose of punishment is the enforcement of the law, and that it does in fact achieve this purpose.

Simmius : I begin to think you are being wilfully obtuse. For you must know that the enforcement of the law by punishment is not absolute. You may say, if it pleases you, that in respect of actual criminals punishment fails as often as it succeeds. It is in respect of potential criminals that its efficacy is most apparent. In brief, by punishing the wrongdoer we deter others from wrongdoing. This cannot be disputed.

Philemon : Nor can it, I think, be demonstrated. For it is impossible, as you will agree, to collect evidence of crimes contemplated, but never committed. I myself have the gravest doubts of whether the thought of punishment is so active a deterrent as we like to assume. I am inclined to think that the deterrent value of punishment varies inversely with the gravity of the crime of which it is the penalty.

Simmius : That is an idea worth considering. Perhaps you will give me an example.

Philemon : What I mean is this : that a man may conceivably be deterred from robbing a till by fear of imprisonment, but he will hardly be deterred from murder by fear of hanging. To suppose the contrary is to ignore the evident facts of human psychology. Murders fall into one of two categories—impulsive (i.e., passionate) and calculated. Now it is clear that a man possessed by a sudden murderous impulse is in no condition to consider the possible consequences to himself. It is equally clear that a man planning

a murder does so on the assumption that his crime will not be brought home to him.

Simmias : You are suggesting that the death penalty is ineffective as a deterrent and therefore indefensible?

Philemon : The first, certainly. The second admits of more dispute. What I do suggest—and remember that I am coming to you for instruction in these matters—is that, if we insist on hanging our murderers, we must at least drop all pretence of being high-minded about it and confess that what we want is vengeance—an eye for an eye and a tooth for a tooth.

Simmias : But we are at one, I am sure, in repudiating the spirit of vengeance, which is the very negation of Rationalism.

Philemon : I agree. And it is idle to talk of civilization while the law remains at the service of vindictiveness.

Simmias : How then do you defend capital punishment?

Philemon : I am somewhat at a loss to know how to do so. That is why I have come to you for help. That it acts as a deterrent is exceedingly improbable. The experience of other countries contradicts such an idea, and we have seen how little it is supported by psychological considerations. The fact is, I think, we deceive ourselves when we say either that punishment is remedial or that we intend it to be so. Punishment is now what it has always been—collective vengeance. It provides a safety-valve for the ugliest of human impulses—vindictiveness. Therein it, perhaps, performs a useful function, for it is arguable that, if the State did not take official vengeance on the criminal, the vindictive lust of righteous citizens would exceed all bounds. The least and perhaps the most we can truthfully say for our Criminal Law is that it is more orderly in its operation, and less atrocious in its results, than the Lynch Law for which it is a substitute.

Simmias : I think you are going too fast. And you have disposed too hastily of the question of punishment as a deterrent. Even if you could prove to me that no potential lawbreaker was ever deterred by fear of imprisonment, I should still be in favour of its retention.

Philemon : That is a very surprising statement, unless you accept the view I have just put forward—that legal punishment is a concession to human vindictiveness.

Simmias : No. I look at it in this way. A man is afraid, not primarily of punishment, but of public opinion. He hates to be thought ill of by his fellows. He dreads to be made an outcast.

Philemon : You are arguing against yourself. For, surely, if a man is already suffering acutely from the disapproval of

his fellows, it is gratuitous cruelty to add to his troubles the physical degradation of imprisonment.

Simmias : Not so. Punishment is the emphatic expression of our collective disapproval of crime. It is the only effective means we have of manifesting that disapproval to the criminal.

Philemon : We are getting along famously, and you are justifying all my hopes of you. We began by saying that legal punishment enforces the law. Finding that proposition to be quite unsupported by evidence, we fell back on the defence that it provides a relatively harmless expression for the ineradicable vindictiveness of the righteous. Now we have whittled it down still further. It has become merely "the emphatic expression of disapproval." Is it permitted to hope that we may some day find a less violent means of expressing our disapproval?

Simmias : It is a forlorn hope. Habitual law-breakers are like dogs—they understand only violence. In teaching a dog manners you have to beat it when it commits a misdemeanour. There is no other way. And it is the same with a thief.

Philemon : With this difference—that your dog will learn to avoid breaking the law ; whereas your thief, so far from being reformed by punishment, is the further degraded.

THE VITALITY OF RELIGION

By CHARLES T. GORHAM

THAT religion has long had a compelling grip on the human mind few Rationalists would care to deny. It is a fact, and facts must be respected. How is this particular fact to be accounted for? Can it be accounted for without the supposition of divine inspiration and divine superintendence? I think it can, and the following reasons may help towards an answer.

First of all, let us beware of explaining one mysterious problem by invoking others that are equally or more mysterious. To account for religion as a product of divinely implanted forces is not a reasonable method of argument. We know so little of the nature of the supposed divine source, or of the modes in which it is said to operate, that the assumption affords no real explanation. The appeal to the divine is an argument from ignorance, or at least from very limited knowledge, and is therefore unsatisfactory.

Before a word of history was written, before man could write at all, ignorance must have been universal. Yet he had the rudiments of religion. In those really "dark ages" of development from an animal condition man had not begun to reason. He was the prey of natural forces which he could not explain or understand. He rejoiced in the sun which gave him light and warmth and became the object of his adoration. He cowered in terror before the lightning stroke which might at any moment leave him a corpse. He was appalled by the loud thunder which could only be the angry voice of mysterious beings far more powerful than himself. With the invention of fire he was able to obtain food of pleasant savour to himself and his gods. The latter instructed him to sow in the ground the seeds of plants, and wait patiently for the harvest. The traditions of most nations show us that all these things were thought to be, not the result of man's own ingenuity and skill, but of unseen beings, some kindly, others hostile, who were ever present about him, and inspired the thoughts within his brain.

The legend of Hiawatha, the belief in Ceres (the goddess of agriculture), the Biblical story of Cain and Abel, are but illustrations of the tendency of early man to worship higher

powers innumerable; until, after long ages, the budding reason found in one supreme being the explanation of the natural phenomena by which he had long been impressed. In the childhood of the individual the childhood of the race is summarily repeated. It suggests that an immensely long but unrecorded lapse of time (which the Apostle says God kindly "winked at") accounts for the persistence in civilized periods of the primitive notions of helplessness and fear which civilization has not yet been able to discard. These considerations have weight in determining whether religion is instinctive or acquired. As its roots are fear and ignorance, not much unlike the mental qualities of animals, it may be called an instinct, modified by ideas and passions which have no direct relation to the primal impulse. In that sense religion will probably last as long as human nature lasts. The additions acquired in the course of its development make little difference to the native feeling. As the mind increases its knowledge we observe religion assuming a more ethical, we might say a more spiritual, character. The cruel sacrifices to Moloch were a manifestation of the same religious sentiment which gave birth to the doctrine of the Atonement. In each case man is careful to transfer to some one else the penalty which he believes due to his own sin. The Christian doctrine sanctifies an intense and barbarous selfishness. That on the whole it works pretty well in practice, in spite of philosophical objections, is but a proof of human weakness—of the desire of the "natural man" to escape that divine justice which long ages of fear have engendered.

If even the purest forms of religion arose from primitive man's dread of the unknown, it follows that the Christian doctrines of heaven and hell must have arisen from the same source. It is probable that the notion of an eternity of bliss can have no very strong appeal except to immature minds. To the Rationalist it is highly improbable that any future heaven exists. It is extremely doubtful, according to many of the modern clergy, whether heaven can be termed a "place" in any localized sense. But the concept is not much improved by the suggestion that it is a psychical state. Is it conceivable that everlasting happiness would not become in course of time a condition of infinite boredom? That would mean the suppression of individual thought—a state equivalent to total extinction. Perhaps the Buddhist "Nirvana" is a more reasonable view than the Christian doctrine.

The Rationalist is wiser in discarding such beliefs altogether as lying outside the scope of evidence. The correlative doctrine of an eternal hell (theologians used to contend that you cannot have the one without the other) is so revolting, so impossible to reconcile with any decent theory of God, that it

could have emanated only from a semi-barbarous age. It is perhaps the most serious blot on orthodox Christianity that this incredible doctrine, which has driven thousands to madness, should receive what was held to be divine approval, and that human reason should have been employed by numberless Christian writers to bolster up a conception that must be pronounced both immoral and untrue.

After all, can we really consider the question of religion apart from the multiplicity of forms which it has assumed? These vary so widely that it is difficult to frame a term which shall embrace them all. The sentiment is one thing; its presentation is another. I question whether an absolutely pure religious sentiment exists. And religion is mainly a matter, not of intellect, but of feeling. Has it ever been defined in terms which admit of no dogma whatever? Had it been so presented, the race in general would have been unimpressed or hostile. The vitality of religion would, indeed, appear to be due to other causes than its truth. The human race is not yet sufficiently enlightened to appreciate the religious sentiment in its purest forms. Religion arose in ages of mental darkness, and many traces of its ancestry remain. Considering the remarkable differences of opinion which exist in the only religion that seriously claims superhuman authority, it is highly unlikely that any one form of faith will ever secure the adhesion of all peoples, cultivated and ignorant alike. What affinity is there between the Shintoism of Japan, the Mohammedanism of the Near East, the Fetish worship of the Black races of Africa, the strange spirit cults of the South American Indians, and the highly evolved dogmas of Canterbury and Rome? How, then, can we treat religion as a universally recognized single factor, producing everywhere the like effects on human life? We must look for another explanation. "Religion" is a term too vague and elastic. The kind of religion is the thing that counts.

The Christian, especially if he is a missionary, may retort: "Say what you like about pagan religions; they are too full of superstition to deserve serious consideration. But why dispute the supremacy of the one divinely revealed and therefore true faith of Christ?" There is plenty of room for doubt here. Can we learn nothing from these "false" religions? Are they not all manifestations of the almost universal "instinct"? Christianity relies on belief in a personal God, interested in and affected by the behaviour of human beings. This may be an arguable proposition, but its truth, owing to its varieties of meaning, is hardly capable of demonstration. Amid all its excellencies there are in Christianity numberless plain indications of human origin.

Although religion is a function of the emotional nature, its doctrines must be considered as subject to the test of reason and probability. Emotion, in an even greater degree than reason, may be misapplied, and thus lead to erroneous conclusions. The control over our personal tempers which we have to exercise as a social duty must be extended to religious doctrines. Love, hatred, praise, or blame may, with uncomfortable facility, be bestowed for insufficient or improper reasons; and this is particularly the case with religious belief. The intellect must criticize and verify the conclusions formed, however strongly they may appeal to the feelings.

The inquirer, when he contemplates the terrible records of history and the facts of life, cannot help wondering how it is possible to fit them into any scheme of Providential care. Consider the awful disasters, the earthquakes, volcanic eruptions, tidal waves, to say nothing of poisonous germs, malefic insects, and other phenomena of nature for which man's wickedness can be deemed in no way responsible, except in the sense that they are punishments inflicted for human sins—itself an explanation which attributes to a beneficent creator a character falling far short of moral perfection.

Such dogmas as those of the Atonement, the Inspiration of the Bible, Vicarious Righteousness, and many others, are seriously open to criticism, so much so that many learned members of the Christian clergy have abandoned their traditional beliefs about a future life. It must be admitted that the belief in immortality, however mistaken, has been the most important of all agencies which have made Christianity popular. In the distracted times when Christianity was first proclaimed it was natural that this belief, this promise of a happy future life, should have been enthusiastically welcomed, and, combined with its ethical appeal, should have ensured the success of the movement.

On a consideration of the whole subject we must, I think, come to the conclusion that the elements of superstition and ignorance have had a profound influence in accounting for the almost universal hold of religion generally, and of Christianity in particular, upon the human race. Secular progress, with its destructive and ever-growing influence on dogmatic forms of religion, tends to "improve out of existence" their more barbarous features.

As long as the human race remains intellectually undeveloped (are we not all in that state?) religion will make as strong an appeal by its inferior as by its purer elements. The Rationalist need not worry because the forces of unreason are powerful. Let him feel assured that the power of truth is greater still.

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